ATTENTION-DEFICIT/HYPERACTIVITY DISORDER:

A SYSTEMS PERSPECTIVE

A COMPREHENSIVE QUALITATIVE ANALYSIS OF THE LITERATURE

by

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ABSTRACT

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Attention-Deficit/Hyperactivity Disorder (ADHD) is a neurological syndrome resulting in problems with self-regulation. ADHD is characterized by inattention and/or hyperactivity-impulsivity which causes impairment in at least two settings. These characteristics often arise in childhood and were previously thought to diminish during adolescence and disappear by adulthood. However, studies over the past decade indicate that although some symptoms may decrease in severity, ADHD does continue throughout adulthood for many individuals. The impact of this disorder is felt not only by the individuals with ADHD, but also by the various systems in which these individuals live, work, and socialize.

In this comprehensive analysis of the literature ADHD is discussed from a systemic perspective. Initially the symptoms and characteristics that define ADHD are reviewed along with other disorders that commonly coexist with ADHD, and what research tells us does and does not cause ADHD and the development of the co-morbid disorders. Prevalence of ADHD and co-morbidity is also reviewed. The term "system" is defined and the various systems presented as related to this topic, from the micro-system of the individual to the macro-system of society at large.

As the characteristics of ADHD are exhibited inconsistently according to the age of the individual and the context of the interaction, these are addressed, as appropriate, in the categories of child, adolescent/teen, and adult for each system. The first system discussed is the internal system of the individual in which ADHD resides. This micro-system consists of the biological, intellectual, and psychological components. This is followed by

examination of this micro-system of the individual interacting in the family system, both nuclear and extended. The common effects on other family members in the system and the system as a whole are discussed.

With understanding of the individual and his/her family with ADHD as a foundation, the view is broadened to other systems in which both the individual and his/her family operate. The discussion includes the reciprocal effects of ADHD and the educational, employment, social/recreational, and legal systems, as well as the influence of interactions between these systems.

The presentation of the pervasive impact of ADHD on all systems is followed by analysis of the different treatment options and effectiveness. Included are interventions in the areas of interpersonal relationships within the family, social relationships, leisure/recreation, school, work, and in the legal arena. Since the acceptance and attitude about ADHD are important factors in interaction and treatment effectiveness, these are also investigated throughout.

A summary of the analysis of the literature is presented in the second chapter. This is followed by conclusions and a discussion of implications for marriage and family therapists.

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Chapter 1

Introduction

There is a sizable percentage of the population that struggles daily with a problem called Attention-Deficit/Hyperactivity Disorder. Many are unaware they have it and those who are diagnosed are often misunderstood and receive less than the most effective treatment and services.

Often an individual with ADHD is unwilling to share their diagnosis with others which maintains the misunderstanding and reduces opportunities to improve their functioning and relationships. And because ADHD is an invisible disability, the difficulties are frequently judged as personal failings and met with disapproval rather than attributed to the disorder. This is even more true for adults than for children. While there is a general pool of knowledge on ADHD, the view tends to be from an individual perspective when discussing characteristic interactions and treatment options.

Because no person lives and operates in a vacuum, the symptoms and behaviors affect every other individual or system with which the person interacts. For those with ADHD these interactions are often negative and have a dramatic and long-lasting effect on their sense of self, their personal success, and the functioning of the involved systems. The untreated ADHD child wonders confusedly "Why is everyone always angry with me?" "Why am I always in trouble?" "What's wrong with me?" He doesn't mean to break or ruin things--she doesn't deliberately disobey or ignore instructions. Constant movement, insatiable exploration, and single-minded focus on one subject almost inevitably elicit negative reactions from most people around the child with ADHD (Roberts, 3/8/01). According to Thomas W. Phelan, Ph.D. negative interactions in the home are as high as 90% (1990). These negative interactions exact a toll, not only on the child with ADHD, but also on the other family members and the attitude they carry into other contexts. Adults with ADHD experience much of the same confusion as children with ADHD due to their struggles with concentration, memory, organization, planning, follow-through, and self-regulation. Many adults also suffer from added problems that arose from growing up with the disorder. Among the more prominent are depression, low self-esteem, and major interpersonal difficulties. Many feel like imposters if they are successful or if they lie to cover for their shortcomings (Kay, 1999). Since ADHD appears to run in families, it is not unusual to have parents and/or siblings who also have ADHD. As reported by Everett and Everett, studies conducted by Frick and associates (1991) and Robin and associates (1995) resulted in estimates of

biological relatives diagnosed with or suspected of having ADHD. The combined figure indicated a dramatic 61% of family members who had either been diagnosed with or suspected of having ADHD (1999). This multiplies the complexity of the problems and underscores the need for a systemic approach to treatment.

For these reasons it is crucial to gain a broader perspective and understanding of ADHD and it's effects on the many systems in which we all live. The term "system" is defined and identified as those systems which include the family and the broader community (educational, vocational, and legal). With greater understanding and acceptance of a systems perspective of ADHD and a comprehensive approach to treatment, individuals with ADHD can experience more positive interactions and success. This in turn increases the functioning and success of the involved systems.

In this comprehensive analysis of the literature, ADHD will be discussed from a systems perspective. The symptoms and characteristics of ADHD across the lifespan will be presented as well as a brief description of common co-morbid disorders which include mood disorders, substance abuse disorders, Oppositional-Defiant Disorder, and Antisocial Personality Disorder. The prevalence of ADHD in the general population will be discussed along with the prevalence of co-morbid disorders with ADHD.

With an understanding of ADHD and associated disorders as a foundation, the effects on the various systems are examined. Because ADHD is located within an individual, that system is first examined. Next the effects on the family are discussed. These include the personal reactions of siblings and parents, impact on interactions with siblings and parents, the marital dyad, and activities of the family at home and in the larger community.

That is followed by an exploration of the effects of ADHD in different contexts, including the educational, vocational, social/recreational, and the legal systems. The reciprocal effects of the systems and the potential exacerbation of ADHD symptomology are also explored. Each of these areas are discussed according to ages of the individual with ADHD, as appropriate, and also in relation to the family.

With this in mind, the treatment options and their effectiveness are then examined. Common forms of treatment include use of medications, education and counseling, interventions in the home such as parent training, use of support groups such as C.H.A.D.D., and accommodations in the school. Other more controversial treatments are also discussed. Historically, treatments have focused on the child with ADHD. More recently interventions

have evolved that concentrate on the needs of adults. As research has expanded and the broader consequences have come to light, new and more comprehensive treatments are coming to the forefront. These treatments include addressing the issues of grief and loss, repairing relationships within the family, and advocacy. The evidence for early treatment as prevention is also reviewed, as well as the importance of collaboration among service providers.

Important factors in accomplishing successful outcomes with ADHD are the degree of acceptance and the attitude about the disorder. These are examined together at the level of the individual, close associates, and expanded to the public at large, as well as how these factors impact initiation and follow-through of treatment and the success of interventions.

Lastly, implications for marriage and family therapists and other professionals are discussed. Included is the need for education to heighten awareness in the assessment process, broadening the scope of treatment, and the role of advocacy.

Statement of the Problem

Until recently, ADHD has been viewed as a problem of an individual, most commonly a child. As a result, treatment has had a narrow focus and has been fragmented. This has left individuals with ADHD and their families struggling not only with the daily management of ADHD and related issues, but also with educating themselves, educating others, and advocating for the person with ADHD and their entire family. It often leads to battle fatigued individuals and families who are ill equipped to manage their lives and frequently leads to exacerbation of the problems. This downward spiral the of the individual and family in turn negatively affects the other systems around them.

As research has expanded awareness of the far-reaching effects of ADHD, it is incumbent on marriage and family therapists, as well as other health professionals, to expand our perspective to include the systems approach to assessment and treatment of ADHD. The assessment needs to include the functioning of other family members and the family unit, and expand to explore those same issues in respect to the other environments and systems in which the individual and family exist. Treatment needs to have the same broad perspective and promote the involvement of all systems in finding solutions and accommodations for ADHD. With the systemic perspective, ADHD can be addressed comprehensively and improve the outcomes for all systems. It is the intent of this researcher to complete a comprehensive qualitative analysis of the literature that will be used to provide a systemic perspective for marriage

and family therapists and other health professionals, enabling them to better serve those individuals and families who live with ADHD and the systems in which they reside.

Chapter 2

Analysis of the Literature

Symptoms/Characteristics and Co-morbid Disorders

ADHD is a term used to describe a group of behavioral characteristics that are the cause of problematic behaviors which include short attention span, trouble concentrating, distractibility, and poor impulse control. Hyperactivity may be, but is not always, present.

As described in the Diagnostic and Statistical Manual of Mental Disorders, Rev. 4 (DSM-IV), Attention Deficit/Hyperactivity Disorder is "a persistent pattern of inattention and/or hyperactivity-impulsivity that is more frequent and severe than is typically observed in individuals at a comparable level of development," (APA, 1994, p.78) with some symptoms being present before age 7, although some individuals are not diagnosed for years after symptoms are present. Features of this disorder include inattention to details, work often being performed carelessly, difficulty sustaining attention and completing tasks, with frequent shifts from one uncompleted activity to another, and difficulties organizing tasks and activities. Also, individuals with ADHD are easily distracted by irrelevant stimuli, having problems following details or rules, are fidgety and act as if "driven by a motor" and have difficulty participating in sedentary group activities. Young children with ADHD move excessively and are difficult to contain, while by early adolescence these symptoms become conspicuous and may be confined to fidgetiness or an inner feelings of jitteriness or restlessness. There are currently three types of ADHD: 1) ADHD, combined type which meets criteria for both inattentiveness and hyperactivity-impulsivity, 2) ADHD, predominantly inattentive type where criteria for hyperactivity-impulsivity is not met, and 3) ADHD, predominantly hyperactive-impulsive type where criteria for inattentiveness is not met. The DSM-IV also allows the coding of "In Partial Remission" for individuals (especially adolescents and adults) who have symptoms that no longer meet full criteria for ADHD. This allowance is due to the realization that ADHD does continue into adulthood for many, but with less obvious symptoms.

Other manifestations include impatience, difficulty in delaying responses, and intruding on others to the point of causing problems in social, academic, or occupational settings. These manifestations usually appear in multiple contexts, and for diagnostic purposes, must be evident in at least two settings. There are other associated features which include low frustration tolerance, temper outbursts, bossiness, stubbornness, excessive and frequent

insistence that requests be met, mood lability (instability), demoralization, dysphoria (unhappiness), rejection by peers, and poor self-esteem (APA, 1994).

Sam Goldstein, Ph.D., explains that children with ADHD commonly present with difficulty in four broad areas: inattention and distractibility, overarousal, impulsivity, and difficulty with rewards. He goes on to report:

> Increasingly, researchers are recognizing that ADHD is a performance disorder. ADHD results from the inadequate, inconsistent or ineffective use of a variety of skills to meet the expectations of the classroom, family, or social milieu. This is very clearly a disorder of inconsistency rather than outright inability. It is this pattern of inconsistency and unpredictability that so frustrates parents and teachers. It is this pattern that frequently leads to the interpretation that these children are simply not trying (1998, p. 17).

What causes and does not cause ADHD have been a focus of research for years with the consensus in the medical/neuroscience community that it is a neurochemical disorder. While most experts agree that heredity is the main cause, the brain has been targeted for further explanation. Dr. Alan Zametkin's research, published in 1990, suggested "there was decreased glucose metabolism in areas of the brain that control attention and motor activity--the premotor cortex and superior prefrontal cortex" (p. 8), meaning those areas of the brain were not receiving enough fuel and were under-functioning. Subsequent research suggests that other areas of the brain, including the corpus callous, which connects the two hemispheres, and the reticular activating systems, which affects the brain's level of arousal, are also involved. Some scientists believe that there is a dysfunction in parts of the brain that control response-reward interactions so that individuals with ADHD may be less responsive to reward and punishment. There is some evidence that it may result from maternal alcohol or drug abuse during pregnancy, and in rare cases ADHD may be caused by hypothyroidism (Nadeau, 1996). Barkley states that ADHD is a neurobiological disorder and that there is sufficient evidence from various types of scientific studies that indicate ADHD is related to anomalies in brain development and brain function (1990).

Wendy Coleman, M.D., differentiates causes by whether the ADHD is primary or secondary. She reports primary ADHD is usually inherited. She believes secondary ADHD can be acquired in infancy and childhood from various severe illness or injuries. These include mood disorders, neurologic disorders, chromosomal disorders, injury to the fetus (i.e. infection, trauma, brain damage, exposure to abuse of chemicals, or severe lack of oxygen), very premature birth (under 2 pounds), or injury to a young child from such things as toxins, infections, head injury,

or exposure to large amounts of radiation during treatment of brain tumors or leukemia (1993). Brain chemistry is also believed to play an important role in causing ADHD. Parker asserts that researchers have discovered that neurotransmitter chemicals such as dopamine, norepinephrine, and serotonin operating within the frontal lobe of the brain may be responsible. Research conducted at the University of Georgia and the National Institute of Mental Health found moderate to significant differences in the size of the caudate nucleus on each side of the brain (1999). A small minority believe that allergies are the culprit, but the majority of the scientific community does not support this hypothesis (Nadeau, 1996).

ADHD is "not a psychological reaction to poor parenting or lack of discipline, ...the result of 'laziness' or 'lack of motivation'," (p. 9) although many individuals with ADHD experience difficulties with motivation (Nadeau, 1990). Barkley (1990) agrees, indicating that "little if any evidence supports the notion that ADHD can arise purely out of social or environmental factors, such as poverty, family chaos, diet, or poor parent management of children" (p. 104). Teeter also sees heritability as a stronger factor in the development of ADHD than environmental explanations such as poverty, poor parenting or a chaotic family environment (1998).

Other disorders often present include Oppositional Defiant Disorder (ODD), Conduct Disorder, Mood Disorders, Anxiety Disorders, Learning Disorders, Communication Disorders, and Tourette's Disorder (APA 80-81). According to Harvey C. Parker, Ph.D. (1999) up to 65% of adolescents with ADHD exhibit oppositional behavior to the degree of being identified as having ODD and 30% also have signs of a conduct disorder. Parker also reports estimates of as many as 30% of ADHD adolescents develop symptoms of depression (dysthymia, major depression, or bipolar disorder), have an increased incidence of separation anxiety disorder and overanxious disorder, as many as 25% show signs of a learning disability, about 50% have problems with motor coordination, 10% develop a transient tic disorder, and between 40% and 50% experience sleep difficulties. Parker also reported ADHD itself does not increase the risk of substance use disorders, ADHD plus conduct disorder does (1999, p. 17-26). Everett and Everett (1999) disagree that ADHD alone does not increase susceptibility to substance abuse "because we have observed that increasing numbers of ADHD children, representing all three diagnostic subtypes, become involved with drugs and alcohol, sometimes as early as 8 or 9 years old." This is believed to be because of their higher rates of failure in school and conflict with parents (p. 27). Many of these features lead to academic and vocational underachievement, conflict in the family and with authorities, as well as difficulties in peer relationships.

Prevalence

The reported prevalence of ADHD in school age children is estimated at 3-5% (Fowler, 1995; American Psychiatric Association, 1994; Barkley 1990b; McBurnett, Lahey, & Pfiffer, 1993), whereas others estimate that 10-20% of this age group has ADHD (Shaywitz & Shaywitz, 1992). Studies report that approximately 71% of children do not outgrow ADHD symptoms in adolescence (Barkley, Fischer, et al., 1990) and that about 66% of adults continue to exhibit at least one of the major symptoms of ADHD (Weiss & Hechtman, 1993). The Educators Manual for Attention Deficit Disorders reports that ADHD will continue to cause problems for two-thirds of these individuals in adulthood (Fowler, 1995). The video, Outside In, reports over 12 million, or 1 in 20 Americans have ADHD. All experts agree that more males than females are diagnosed with ADHD, however the ratios range from 3:1, estimated by Fowler (1995), to reports of 4:1 to 9:1 (American Psychiatric Association, 1994). This gender difference may be a reflection of the under-diagnosis of females, since most females who are diagnosed have the inattentive type, which does not draw attention to parents and teachers as does the hyperactive/impulsive type. Research indicates that ADHD runs in families. Studies conducted by Dr. Joseph Biederman and his colleagues at the Massachusetts General Hospital concluded that in families with a child with ADHD it has been found 10-35% of immediate family members and 32% of that child's siblings are likely to have the disorder, and that if a parent has ADHD there is a 57% chance that one of their children will have it (Parker, 1999; Teeter, 1998). These statistics indicate that ADHD indeed exists to an extent that it has far-reaching effects on society as it reverberates through the various systems.

Definition of Systems and the Importance of a Systems Perspective

What are these systems? And why are the systems important? Webster's New Collegiate Dictionary (1973) definition of system includes "a regularly interacting or interdependent group of items forming a unified whole; a group of interacting bodies under the influence of related forces," (p. 1184) and references the organized items or bodies performing one or more functions or serving a common purpose. For the purpose of this paper the systems are those of the individual, different levels of social groups, and the environments in which they operate.

There are several reasons it is important to use a systemic perspective when examining the effects of ADHD. What Teeter (1998) calls the "neurodevelopmental anomalies" of ADHD interact with environmental factors, or systems, to affect the overall cognitive, psychosocial, academic, and behavioral functioning of individuals

with ADHD (p. xviii). She further explains that the environment sets the stage for the extent and manner in which characteristics of ADHD express themselves and that the extent to which the environment can be altered may reduce the impact of symptoms and increase the overall adjustment of the individual with ADHD. The importance of viewing from a systemic perspective is evidenced by the myriad of assessment tools and interventions that involve not only the patient and doctor, but parents, significant others, as well as teachers and more recently co-workers/employers. Quite frequently publications that discuss treatment address the issues relating to interactions with family and teachers before the intrapersonal. There is reciprocity between ADHD and each and every system.

Effects on the Individual

ADHD primarily resides in the system of the individual, consisting of the biological, the intellectual, and the psychological systems. ADHD is a neurobiological disorder located in the brain, as earlier discussed. The physical effects of restlessness, overactivity, and impulsivity are common knowledge. Other less known physical effects result from the negative interactions with other people. As Roberts explains,

> Constant disapproval and resulting rejection can contribute to the child's sense of danger and fear of abandonment--resulting in a constant state of hyperarousal to protect oneself from harm. While serving the purpose of protecting for survival, constant hyperarousal can lead to the development of chronic somatic problems such as ulcers, soft-tissue rheumatism, and debilitating headaches (3/8/01).

The frequent headaches and stomachaches may be caused by anxiety from fear of facing new situations or tests, or may be from medication. Side effects of medication will be discussed under the topic of treatment options. Children with ADHD also appear to have a higher rate of ailments such as ear infections; allergies, and speech, hearing, and vision problems. Sleep difficulties are not unusual. Children with hyperactivity often need less sleep and have difficulty falling asleep, partially due to the lack of self-soothing skills and being placed in bed too early for their time clock. These hyperactive children may not be ready to sleep until 10:00 or 11:00 p.m. and rise as early as 5:00 or 6:00 a.m. Others may fall asleep normally, but sleep lightly and often awake during the night. This also results in sleep deprivation for parents, especially mothers, and is a common complaint. Other children with ADHD may sleep soundly through the night and experience bed wetting difficulties due to an underdeveloped nervous system (Alexander-Roberts, 1994). Goldstein contends that while anecdotally children with ADHD are reported as having myriad problems related to sleep, "objective verification of these disturbances was less robust" (p. 8).

Objective findings consistently report children with ADHD displayed more movements during sleep, but otherwise did not differ from controls in total sleep time. It appears the exact nature and extent of sleep problems remains to be determined (Goldstein, 1998).

Children with ADHD may have problems with either fine or gross motor skills development. Problems with fine motor skills may be observed in writing, drawing, coloring, buttoning buttons and other tasks which require finger dexterity. Children with gross motor skill problems appear clumsy and uncoordinated. They struggle with running, skipping, hopping on one foot, or riding a bicycle and other activities involving coordination of the large-muscle groups. Add a high tolerance for pain, which some children with ADHD exhibit, and they are more likely to have accidents requiring trips to the emergency room. And since the pain is only felt for a few seconds, they do not learn from the experience and dangerous activities are repeated (Alexander-Roberts, 1994). As they grow into adolescence and adulthood, the risky behavior and consequences take different forms such as vehicle accidents; traffic citations; use of cigarettes, alcohol and other drugs; as well as unprotected sex (Parker, 1999). These risky behaviors may also result in legal involvements, which will be discussed later in this chapter.

Intellect is also affected by ADHD. A framework for cognitive/intellectual development is first needed. Sternberg's theory of cognitive development proposes three aspects of intelligence: The componential, the experiential, and the contextual. The componential element determines the efficiency of processing and analyzing information and is critical in monitoring and evaluating information for problem-solving purposes. The experiential element determines the approach to new or familiar tasks, and is characterized by creativity and insight. This component involves comparing existing information with the new stimuli and forming original frameworks and insights. The contextual element determines how an individual deals with the environment, making decisions based on environmental cues and making the desired adjustments to best fit the individual's needs. In other words, the ability to read a situation and make appropriate adjustments to accomplish goals. Together these elements allow an individual to take in information from the environment, access prior information and compare with the new in order to make decisions that are appropriate to the situation, and enable the individual to take actions that facilitate adjustments and progress toward the desired goal (Teeter, 1998).

Deficits in the areas of cognitive functioning are found in individuals with learning disabilities. As noted earlier, this means that approximately 25% of individuals with ADHD have deficits in cognitive functions to the

extent as to be identified as learning disabled. These individuals may repeatedly use ineffective strategies or ignore relevant information in problem solving. The speed of processing may also be impaired resulting in either sluggish responses or impulsivity. The extent of these conditions being problematic is determined by the type of and demands of the task or situation. Repeated failure in these areas reduces motivation which in turn reduces effort and increases failures in tasks that require more effort and attention. The longer the history of failure the more motivation becomes a problem, especially for teenagers and adults. The self-defeating cycle of demotivation and failure plays out in all the systems in which the individual with ADHD operates.

Another deficit is in the area of tacit knowledge, that which is not formally taught or expressly stated. Individuals with ADHD often miss the more subtle cues from modeling, facial expressions, and nuances that non-ADHD people learn from. This puts them at a disadvantage in handling situations in the home, at school or work, and social activities due to difficulties with managing self, tasks, and others (Teeter, 1999). It is noted that while the distribution of IQ's of individuals with ADHD is normal, those with higher IQ's, which offsets other disabilities, have a better prognosis (Phelan, 1990).

The psychological impact may be devastating. A child's self-worth is based on the quality of interactions with caregivers and experience of success when learning new skills. Nearly every article or book written about ADHD dedicates space to address self-esteem. That sense of self is damaged by the all too frequent negative interactions with family members and peers resulting in a sense of being bad, not being acceptable, not belonging, and a fragmented self-identity. Sense of self is also eroded by difficulties, and oftentimes failures, in mastering age appropriate skills leading the child to feel slow or dumb. These experiences may result in self-protective shutdown of emotions, addictive behaviors, suicide ideation, and possibly antisocial behaviors. Poor self-esteem and feelings of failure, anger, fear, and isolation can result in depression (dysthymia, major depression, and bipolar) or anxiety. There may also be genetic predispositions to these disorders. It is estimated that up to 30% of teenagers develop symptoms of depression (Alexander-Roberts, 1994; Nadeau, 1996; Parker, 1999; Roberts, 3/8/01). According to Melinda White, LMFT who specializes in treating ADHD, negative self-esteem and defeatists attitudes that develop are often the most damaging aspects of ADHD (4/13/00). Once deciding to give up old behaviors, looking back can be painful. Shame is often present in individuals, especially females, with a history of acting-out behaviors. This appears to be less true for males who tend to look back on their antics with humor (Nadeau, 1996). These

psychological issues begin developing at an early age and may carry through the entire lifespan and across all systems, if not addressed.

Effects on the Family

While ADHD resides in an individual, that individual is born into a family; a family that may already be living with ADHD. The impact on the family is determined by the severity and type of ADHD, how many family members have the disorder, whether or not the disorder is recognized, and the family's reaction to the individual's behavior and diagnosis.

The first area of discussion is the reaction of the parents and siblings. Every parent has a vision of their dream child and what family life will be like. As the reality of daily life with a child with ADHD unfolds, parents are faced with confusion, guilt, and anger as these dreams are shattered. In his book Survival Strategies for Parenting your ADD Child, George T. Lynn, M.A., C.M.H.C., and parent of a child with ADHD, dedicates a chapter to the issue of accepting the loss of the dream child. In this chapter, he describes the common reactions of parents after learning the diagnosis, explores the process of grieving, and offers advice to facilitate a positive outcome. According to Lynn, "most parents of Attention Different children report relief at their child's diagnosis. It is good to know that he is not crazy or that his A.D. (attention different) behavior is not related to some kind of trauma that they do not understand or had overlooked" (1996, p.165). Or the initial response may be denial. Lynn clarifies the dangers of denial as taking inappropriate actions to "mold the child into normalcy" or keeping the disorder a secret (1996, p. 166). Both of these attempts to avoid dealing with reality actually make matters worse. Not acknowledging to themselves, and to others, that their child has ADHD leads to continued misunderstanding and judgment of the child and the family.

These feelings of being misunderstood and judged which lead to feelings of guilt and inadequacy trigger the need to protect and help the child in an attempt to compensate for their feelings. The over-involvement with the child may be in the form of overprotecting, nagging, spoiling, and pitying, none of which are helpful to the child or parents. The combination of strong emotions, stresses of raising an ADHD child, and deteriorating relationships can lead to emotional bankruptcy and withdrawal from the child. This increases the risk of abuse and further problems for the child (Teeter, 1998). There does appear to be a gender difference that affects the parent-child relationship. As Patrick J. Kilcarr, Ph.D., co-author of Voices From Fatherhood: Fathers, Sons, and ADHD and father to two

sons with ADHD, offers "Mothers naturally and often unconditionally express their love toward their children, especially children who tend to be more needy and dependent like boys who have ADHD. Fathers on the other hand, if they do not understand the way ADHD manifests itself in their sons, may express ongoing disappointment resulting in emotional withdrawal" (3/12/01, p. 1). Furthermore, because of confusion about which behaviors are a result of the ADHD and which are purposeful, fathers often feel frustrated and over focus on the problematic behaviors and locking the two in a negative cycle of interaction.

If a parent also has ADHD the effects are compounded. That parent carries the symptoms/characteristics of the disorder along with the emotional baggage of a lifetime of difficulties. Triggered by the stresses of the parental role, there is increased risk for abusive behaviors from impatience and hypercriticalness to outright aggression and violence. This risk increases exponentially if there are other ADHD children in the family (Everett & Everett, 1999). Parents may also suffer from feelings of inadequacy and low self-esteem as their attempts at managing the child's behavior are ineffective.

Sibling responses vary according to the severity of the disorder, the personality of the child with ADHD, the birth order of the children, and how the parents react to the child with ADHD. They may range from confrontation to withdrawal. Older siblings tend to be empathic, especially if educated on the disorder. However, they may still feel resentful and neglected. Some siblings admit feeling sorry for their sibling with ADHD, and their parents, or guilt for not being more understanding. Siblings also report anger over the differences in expectations and treatment, or anger toward the sibling with ADHD because of public embarrassment and limits placed on the family activities due to the disability. While reflecting back on growing up with his ADHD brother, one man spoke of how angry he would get with his brother, "Sometimes I hated him," and tearfully expressed regret that he was not more understanding (Kay, 1999). Younger children may act up, or mimic the behaviors of the child with ADHD in order to get their own needs met (Alexander-Roberts, 1994; Everett & Everett, 1999; Silver, 1990) increasing the demands on parents and the level of stress and conflict in the family.

The constant struggles and presence of negative emotions spills over into the marital relationship. The enormous strain on this relationship often stems from differing parenting styles and choices of appropriate discipline with respect to the negative behaviors. An intelligent child will learn to use these differences to deflect attention when in trouble, thus encouraging continued disagreements (Kilcarr, 3/12/01). With the added demands of having a

child with ADHD along with other family responsibilities, couples frequently lose the intimate closeness they once enjoyed. What time alone a couple may be able to squeeze in is often dominated by conversation about issues surrounding the child with ADHD, thus taking up valuable opportunities for the couple to reconnect as loving individuals. If responsibilities are not perceived as being shared somewhat equally, one spouse may develop frustration and resentment toward the other leading to avoidance and withdrawal (Alexander-Roberts, 1994). This is even more likely when one parent has ADHD and struggles with management of schedules and other responsibilities as well as being consistent in parenting. Everett & Everett report "The chronicity of these parental difficulties eventually damages the quality of their marital interaction and eventually their mutual bonding and trust" (p. 126). The particular characteristics of ADHD may negatively impact their relationship, especially stubbornness, low frustration tolerance, and a propensity for conflict (Teeter, 1998). Even when ADHD is identified and understood, the spouse may feel resentment if ADHD is used as an excuse and attempts at change are not made (Nadeau, 1996). Marriages where a spouse has ADHD "...are often characterized by poor communication, limited privacy and intimacy, poor coparenting and problem solving, deteriorating bonding and trust, and emotional reactivity and potential violence" (Everett & Everett, 1999, p. 126).

The presence of ADHD in the family also influences the leisure and social activities of the entire family. Isolation may occur for the parents and the family as a unit. Finding a baby-sitter who can adequately care for a child with ADHD can be a challenge, preventing the parents from going out to socialize with friends on a regular basis. The couple also becomes isolated when they cannot accept or reciprocate dinner invitations or attend social events because of discomfort with their child's behaviors. Opportunities to meet new friends in the form of parents of their child's peers may be missed because gross motor skill deficits keep the child from participating in team sports, or because of the child's difficulties in relationships with peers other parents may unconsciously or consciously avoid including the parents of the child with ADHD in their social group. The nuclear family may spend less time with extended family who do not understand ADHD and are critical of the child with ADHD and the style of parenting, further isolating the family and depriving family members of a source of support (Kundschier, 1990; Alexander, 1994).

Leisure activities which require sustained attention and impulse control are very limited for families with ADHD. Board games, movies, and family vacations are rare events. Activities are frequently geared to the abilities

and temperament of the disabled child and may not be enjoyable for other family members. As the child becomes a teenager the natural course is to spend more time with friends in leisure activities. The teen may be drawn to other teens with similar difficulties and participate in high-risk behaviors (Parker, 1999). Common problems for teenagers with ADHD, especially if accompanied by co-morbid disorders, are juvenile delinquency and substance use and abuse (Dendy, 1995; Teeter, 1998). This adds to the concern of parents and to the family stress level. ADHD may continue to cause problems in this area for adults. While interest in high-risk activities may have waned, other characteristics continue to present problems. Poor skills in the areas of inhibiting the impulse to interrupt, accurately perceiving and processing subtle social cues, chronic lateness and forgetting commitments sabotage building and maintaining relationships. The tendency to become caught up in the moment and move on when interest wanes often means a string of short-lived interests and friendships. Those who put concerted effort into relationships often find themselves repeatedly "making a mess of things" and retreat into a safer, but isolated, existence (Nadeau, 1996; Roberts, 3/8/01).

All of the above difficulties are enough for any family to contend with. In addition, the family must deal with the negative attitudes and opinions present in the larger community and society at large. While more research and education of the public has lessened the stigma, a family still must deal with those who question the legitimacy of ADHD, or see it as a fad or excuse for immature and irresponsible behavior (Fowler,1995). This negative public attitude increases the tendency to isolate as a form of protection from further ridicule.

Effects within the Educational System

ADHD has had and continues to have far-reaching impact on education, from the functioning of the student and teacher in the classroom to the entire educational system. This impact will be discussed initally from the experience in the classroom and then expanded to the educational system as a whole.

The following is what may commonly be going on inside the mind of a school-aged child with ADHD:

> School is so boring! The main crop in Brazil is ? Man, geography is awesome! The main crop in Brazil has got to be jelly beans. That's it! No, it's probably seaweed. Who could possible care what the main crop of stupid Brazil is...Brazil...Wonder if I can finish this idiot work sheet before lunch so I don't have to bring it home and sit at the kitchen table for hours with my mother nagging and Miss Perfect getting to watch TV and laughing at me. God, I'm hungry. A sandwich will sure taste good and then recess, where the authorities actually let you move around a little bit. Amazing they're so kind. I may just move around a little right into that brat who always gets the other kids after me. Beat

> him up some last week, but it didn't help much. Today I'll nail him right before the bell...This chair has a sliver in it...Oop. Crippen's looking at me. She knows I'm not paying attention to my work again like all the other good little boys and girls. Are you with us today, Jeffery? Are we paying attention to our work today Jeffery? If it's our work, why doesn't she do it? Better look like I'm doing something. Head down, look at paper, move my hand. Oh god, where's my pencil? Jeez I'm an idiot!... Ten minutes till food. CROPS IN BRAZIL! Ten lousy minutes. I can't stand it! When I get older I'll drive a truck. You sit up real big and you get to keep moving. It's great. I'll take my sister with me. Sarah's not so bad, and she doesn't do so hot in school either. She doesn't get in as much trouble as me, but the teacher calls her spacey sometimes. That creep behind me is popping her gum again...(Phelan, 1989, pp. 1-2)

The structure and demands of the typical classroom are a recipe for failure for children with ADHD, especially if with hyperactivity and/or co-morbid disorders. With 3-5% of school-aged children believed diagnosable with ADHD (APA, 1994), it is likely that each classroom has at least one Jeffery (or Jenny) in it. The severity of the symptoms is determined by the context. The

classroom makes demands that challenge the symptoms of inattention, impulsivity, and hyperactivity. At the preschool age, where the environment allows for movement, "inattention is seen through excessive motor activity and noisiness and in an inability to stay with play activities for sustained periods" (Fowler, p. 11) as well as noncompliance. At the elmentary through high school levels teachers report students with ADHD as fidgety and frequently out of their seat, more talking and interrupting, intruding on others activities, bossiness, off-task, especially visually, erratic productivity, and needing more supervision than other students. The "trial and error" learning style tends to result in multiple academic problems. Students may settle down somewhat and make some adjustments by senior high. Nevertheless, most students with ADHD will struggle with performing to expections and abilities (Fowler, 1995). Some students may become lethargic and disinterested in school because of previous failures, disapproval, and lack of acceptance. Gaps in learning contribute to a sense of being stupid and giving up (Roberts, 3//01). This further erodes their fragile self-esteem and affects other areas of their life.

Adults continuing their education have the same difficulties with disorganization, inattention/distraction, and restlessness. They typically have the additional challenge of balancing academics with employment, home, and family responsibilities. Longitudinal studies report a disheartening figure of only 5% of children with ADHD graduating from college compared to 41% of a control group (Barkely, 1990b). At the college level the responsibility to access accommodations shifts from the school and/or parents to the individual. A personal decision

to be open to faculty, administration, and peers may be a difficult one. And if the student decides to access these services, the planning and follow-through are another obstacle (Teeter, 1998).

Teachers are also affected by ADHD in the classroom. Without an understanding of ADHD and how it exhibits in the classroom and student performance, teachers may become frustrated with the behaviors that can disrupt other students and instruction. If a teacher views the student as a problem, overfocusing on negative behaviors may result in a conflictual relationship and impede the educational process. Due to legal requirements, teachers also have the additional responsibility to learn about ADHD and make appropriate accommodations. Having children with ADHD in the classroom places additional time demands in researching and implementing instructional techniques and also in more frequent contacts with parents. Depending on the teacher's attitude about these extra demands, other students in the classroom may also be affected by teacher behavior.

ADD/ADHD is recognized as an eligible disability under the following laws: Individuals with Disabilities in Education Act (IDEA), Section 504 of the Rehabilitation Act of 1973, and the Americans with Disabilities Act (ADA) which require school districts to provide a free appropriate education (FAPE) for all disabled students. The school is responsible to complete an evaluation to determine if the child is handicapped as defined by the law. Each public school district is responsible to know and follow these laws (Parker, 1999; Fowler, 1992). While it is the school district's responsibility to determine and provide appropriate services, this does not always happen. It behooves parents to be knowledgeable of these laws and local advocacy groups.

The attitude of the educational system has an impact on delivery of services. If the teacher and/or the school is not receptive to the diagnosis and accommodations for ADHD, the resistance to invest the effort and finances for appropriate and adequate education has the potential to create a negative learning environment for the disabled child and a conflictual relationship with the parents. When the teacher and the school recognize ADHD as legitimate and are invested in the child's success, a positive working relationship between school and home results in consistency and better outcomes at the level of the child, the family, and the school.

Effects on Employment/Vocation

The research in the area of employment for adults with ADHD is mixed. Some reports are discouraging, while others are far from dismal. It appears that the severity of symptoms plays a role, both in the creation of the person's historical experience (brought to the job) and at the time of employment (Teeter, 1998).

Problems with employment are predictable if a child with ADHD has reached adulthood without diagnosis and appropriate treatment . The symptoms that created difficulties in childhood and adolescence continue into the workplace where there are increased demands for planning, memory, organization, teamwork, and precision. The poor planning may result in a job ill-suited for the personality and characteristics of the individual with ADHD. As they encounter difficulties on the job they may impulsively leave that job for another, chosen just as haphazardly. Common problems experienced are boredom, problems in relationships with co-workers and/or supervisors, and inability to meet the demands of the job. It is not uncommon for an adult with ADHD to have a resume' filled with multiple short-term employments reflecting a pattern of job hopping. Some adults with ADHD manage to find jobs that make use of their talents and intelligence. However, their inconsistent level of motivation and performance, disorganization, poor time management, and tendency to procrastinate prevent them from being promoted. Unfortunately, other adults with ADHD are chronic underachievers. In all of these cases the individuals are kept in lower paying positions and frustrated. This only adds to their feelings of discouragement and dissatisfaction (Kay, 1999; Nadeau, 1996), which spill over into interactions with family and friends.

A more positive picture is presented in the results of a follow-up study of 21-year-olds with hyperactivity done by Weiss and Hechtman (1993). Their results showed that the subjects had similar rates of being fired or laid off, job changes, or unemployment, as the controls. They also showed they spent just as much time in each job. However, in their 15-year follow-up, employers rated these employees more negatively than controls in completing work expectations and cooperation with supervisors, as well as consideration of rehiring them.

On a positive note, most adults with ADHD are employed. Teeter (1998) reports "In one of the major longitudinal studies conducted to date, Manuzza, Klein, Bessler, Malloy, and LaPadula (1993) found that 90% of adults who were identified as having ADHD in childhood were gainfully employed. Of this group, many adults owned their own businesses" (p. 288). Sandler (1995) suggests "In adulthood, there is far greater tolerance of nonconformity and opportunity for individuals with 'special brains' to find vocations that are well suited to their strengths and interest" (p. 66). It appears that adults with ADHD do experience difficulties in the workplace. However, a large majority of them find and maintain employment.

Effects within the Legal System

As children with ADHD enter their teens the behaviors characteristic of their disorder have larger

consequences. Dendy (1995) explains "They may occasionally get in trouble with school officials, law enforcement agencies, or the courts. They may be suspended from school, given a ticket, taken home, or arrested. Usually, their misbehavior is not malicious but done impulsively without thought of consequences" (p. 185). Some examples of these behaviors include driving before obtaining a license, car accidents due to inattention, shoplifting on a dare, underage drinking, vandalism, fighting, breaking curfew, and being caught with drugs or a weapon at school, to name a few. What research indicates may be better predictors of juvenile delinquency are alcohol/drug or mental illness in parents, poor family relations, lack of structure or supervision, poor school performance, and deviant friends. The presence of ADHD only does not appear to be a significant factor (Dendy, 1995; Parker, 1999; Teeter, 1998).

Individuals with ADHD with hyperactivity and/or co-morbid behavioral disorders are at higher risk of legal involvement due to oppositional and aggressive behaviors coupled with deficits in self regulation. While socioeconomic levels appear to impact arrest rates for control groups of young people, it has little impact on those with ADHD. In a study by Satterfield, Hoppe, and Schell the arrest rates for the ADHD group were high across all economic levels, with 58% from lower levels, 36% from middle-class levels and 52% from upper-class levels (1982). Goldstein also reports 25%-50% of these adolescents have juvenile court involvement (1998). Parker (1999) reports that the vast majority of youth with ADHD will not be involved with the juvenile justice system; having emotional and behavioral disorders, learning disabilities, and ADHD does increase the risk for delinquency. He relates that "It may be that more than half to as many as 90 percent of youth in the justice system meet the diagnostic criteria for one or more of these disorders" (p. 163). Patterns of antisocial behavior established in adolescence typically continues into adulthood. Barkley reports as many as 25% of adults with ADHD also meet criteria for antisocial personality disorder (1990a). It is reasonable to deduce that arrest rates would also be significantly above the norm.

In summary, it appears that what would be expected is that an individual with ADHD without hyperactivity would have minor altercations involving legal consequences. Add hyperactivity to ADHD and the problems increase. With ADHD with hyperactivity and co-morbid disorders that include the characteristics of aggressiveness and oppositionality, and the offenses are likely even more serious and chronic.

Interaction between Systems and the Effect on ADHD

Thus far the effects of ADHD on each system have been examined separately. However, each of these systems impacts the others in positive or negative ways, with synergetic effects on the individual with ADHD.

For example, a child who has damaged self-esteem due to negative interactions within the family does not function as well in school. Poor performance, possibly failure, in school may result in increased risk for drug and alcohol abuse as well as legal consequences. This will likely result in more troubles within the family and increased symptoms in the child, as well as other family members. A negative reputation in the school and community further isolates the individual and family. Without effective interventions, the negative interactions may become chronic and the child may develop co-morbid disorders, such as depression, ODD, or CD. Siblings may begin to exhibit problematic behaviors as a result of increased stress in the family and parental focus on the ADHD child. Parents may experience depression due to feelings of failure in parenting. The marital relationship may also suffer from neglect and conflicts over parenting. The parents may also worry about their job because of the effect on performance and/or attendance, or abuse alcohol or drugs to cope with the increasing chaos.

A teenager with ADHD may be functioning adequately at school, however lose his/her driver's license due to violations. This teen then loses his/her job because of lack of transportation. Or the teen may be incarcerated due to impulsively participating in illegal activities and miss classes, resulting in lower grades. Parents who are getting calls at work from authorities may find themselves distracted, and their performance suffering. Frequently missing work to attend conferences or court appearances may also put their job at risk and increase tensions in the home. As a result of any of these issues, arguments and stress increase in the home. Isolation also increases as family members fear questions about the teenager with ADHD.

An adult with ADHD who is unable to maintain steady employment, or is incarcerated, is unable to provide financial or emotional support for the family. This threatens the stability of the family and may result in other family members acting out, causing a ripple-effect of problems into other systems.

The impact is also felt economically across all systems. The losses in productivity and absenteeism in the workplace result in higher cost of goods and services to the general public. The cost of incarcerating an individual is typically born by either social services or local governments, thus increasing taxes for the general public.

On the other hand, with effective intervention, the family manages the child with ADHD in a positive manner. The child receives needed accommodations at school, is successful and is then less likely to be involved in

problematic behaviors resulting in suspensions or arrests. Less legal involvement and school problems result in a more peaceful home environment, as well as more productive parents in the workplace. Effective management of ADHD also reduces the development of co-morbid disorders in the individual, not only reducing the cost to the public as discussed above, but also in the healthcare systems. An adult who has learned to manage the symptoms of ADHD is more likely to be a better parent and partner, maintain steady employment, and avoid legal involvement. This results in healthier families, less social isolation, and productive, contributing members in the community.

Assessment

An individual experiencing the symptomology of ADHD may come to the point of evaluation from different sources. Typically, a teacher or a parent voices concerns about a child and the possibility of ADHD (Coleman, 1993; Levinson, 1990; Teeter, 1998). Adults with ADHD are frequently self-identified when learning about ADHD in their children (Nadeau, 1996). A spouse or co-worker may also express suspicion of the presence of the disorder (Goldstein, 1998; Nadeau, 1996). Adults obtaining therapy for depression, anxiety, or unmanageability of life stressors may be asked questions about symptoms of ADHD by a knowledgeable therapist and referred for an assessment. However, even into the 1990's there is a lack of knowledge about ADHD in the fields of education, medicine, and psychotherapy (Phelan, 1990), leaving many individuals undiagnosed and needlessly suffering.

Assessment is usually done through a physician, clinical psychologist, or psychiatrist. It is important that the evaluator is familiar with the various manifestations of ADHD in both children and adults (Nadeau, 1996). The assessment involves interviewing the patient and significant other people in their life. Parents and teachers are interviewed and/or complete questionnaires in the case of a child or adolescent evaluation. In the case of an adult assessment, the significant others may include spouse, close friends, and/or co-workers. Obviously, in the case of toddlers and preschoolers, the child is not interviewed. Nor is observation reliable, as children with ADHD often do not show symptoms in unique situations (Coleman, 1993; Kirby & Grimley, 1986). According to Phelan, 80% of children with ADHD will sit still while in the office (1990).

A comprehensive assessment involves gathering together a large amount of information from various sources and may be obtained and organized according to the style of the assessor. Information is gathered about the individual's current problems, past history, family history, development, and experiences at home, in school/work,

and in the community . It is also important to identify other family members who may have ADHD, as Everett & Everett (1999) note "The failure to recognize ADHD in parents, or elsewhere in the family's system, can sabotage not only the therapist's efforts to improve parent-child relations but also other interventions directed at facilitating healthier interactions among family members" (p. 177). Goldstein also includes data on intelligence, personality and emotional functioning, parenting skills and discipline, and a thorough medical evaluation to rule out other medical problems causing symptoms masquerading as ADHD (1998). The information gathered is then compared to the known symptoms and characteristics of ADHD for a diagnosis. Most clinicians use the DSM-IV as a guide. There are clinicians, including Harold N. Levinson, M.D., who have become disenchanted with the DSM-IV criteria because of it's narrow scope. Levinson cites the flaws in the DSM-IV criteria as 1) stressing behaviors rather than impact on functioning, 2) implies a uniform group consisting of children or adolescents, 3) implies identical, or almost identical therapeutic needs, and 4) it failed to account for the variance in the degree and nature of symptoms, to name a few (1990).

There are a wide variety of assessment tools available for use as part of the diagnostic process. Commonly used are questionnaires or rating scales that measure behavior that are completed by parents and teachers. More recently questionnaires and rating scales have been developed that focus on the adult manifestations of ADHD which are completed by the individual and significant others in that person's life. Tests that measure intelligence, such as the Wechsler Intelligence Scale, and achievement tests such as the Wide Range Achievement Test (WRAT) or Peabody Individual Achievement Test (PIAT) are also a part of the assessment (Kirby & Brimley, 1986; Nadeau, 1996; Parker, 1999). It is important to note that there is no one test that can stand alone to diagnose ADHD.

The assessment process needs to rule out other disorders that may present with similar symptomology. Barkley identifies these as manic depression, borderline personality disorder, psychosis, and schizophrenia. The presence of co-existing disorders such as anxiety, substance abuse, learning disabilities, or antisocial personality must also be assessed (1994).

The diagnostic report should take a broad look at the individual including how s/he is feeling and functioning. The report should include a summary of personal history, a list of the assessment tools used along with results and interpretation, a summary of findings, diagnosis, and recommendations. A report from a skilled diagnostician should also provide a detailed blueprint for treatment. It is important that the information is presented

in understandable terms and the opportunity for questions is provided (Coleman, 1993; Nadeau, 1996). Once the assessment is completed and the diagnosis explained, the recommendations outlined need to be discussed to agree upon an effective treatment plan.

Treatment Options

The benefits of effective treatment of ADHD are far-reaching. With education comes the reduction of guilt and fears in the parents, as well as empowerment through learning parenting skills and coaching techniques to help the child with ADHD. The benefits to the child include increased self-esteem and self-confidence as s/he learns and uses new skills and experiences successes, both at home and in social and academic arenas. Members of the extended family who gain understanding no longer misjudge the skills of the parents and the motives of the child. These people will likely become more supportive and interact more appropriately with the child. Educational professionals benefit from the addition of information and skills that are effective in educating all children and in promoting a more smoothly run classroom. The student with ADHD gains from the more effective teaching and classroom management techniques employed by the teaching staff, resulting in improved performance, enhanced learning, and improved self-esteem. A positive educational experience also reduces stress for parents and promotes a more calm home life.

While there are different schools of thought about what different treatment approaches are effective, most agree that treatment needs to be multimodal. Coleman provides general guidelines for effective treatment which include: a good match to the individual's needs to reach full potential in important life areas, be provided in a respectful manner in understandable terms, include a coordinator of treatment team members, and include careful and regular follow-up (1993). With some variation, the general consensus is that the multimodel treatment needs to cover the following areas to be effective: careful monitoring of medicine, education, some type of skills training (i.e. behavior modification) in problem solving and social skills, study and organization skills, parent training, and psychotherapy to deal with related issues such as self-esteem, damaged relationships, and grief and loss (Goldstein, 1998; Levinson, 1993; Phelan, 1990; Roberts, 3/8/01).

It is critical that the assessor carefully explain the recommended treatment plan, information that it is based on, the immediate and long term implications of the diagnoses, and the potential risks of not intervening versus benefits of the interventions recommended. In many cases the family has reported that recommendations were not

followed because they did not fully understand the basis of the diagnosis or the reasoning and expectations of recommended interventions. Unless the individual and/or parents are actively involved in the evaluation and understand the diagnosis and rationale behind the recommendations, they are less likely to follow-through with treatment (Barkley, 1990; Goldstein, 1998). Coleman suggests that since it may be difficult to remember all the information, a tape recording of the discussion be made for future reference. This should be discussed with the clinician before the appointment (1993).

Historically, treatment interventions focused on the use of medications for the child, supplemented by parent and teacher education and training. The service provider typically managed the medication, and while reading and support groups may have been mentioned, the individual and family members have been largely left on their own to seek out information on techniques for symptom management, as well as how to work with school personnel to assure appropriate accommodations are made. Unfortunately, this is still more common than not.

However, as more research is published and people with ADHD and their families become informed consumers, more professionals are becoming educated on the etiology and treatment of ADHD. As late as the early 1980's publications focused on treating the individual and devoted limited space to providing information and intervention techniques to families and teachers. Nowadays there is equal attention given to involving family, teachers, therapists, and other caregivers in treatment. This is evidenced by the literally thousands of resources published that target different audiences. Information about ADHD is easily assessable to virtually anyone in mediums from video, internet, publications, professional organizations, and support groups. Keeping up with the newest information and continuing to assure that appropriate actions are being taken can be an overwhelming task for the most ambitious parents. Because of this, Barry D. Garfinkel, M.D., forecasted that a new professional role, that of advocate, will evolve to fill this need (1990). Thus far, this role has been filled by advocacy groups with local representatives, parents, and is an opportunity for the therapist who works with ADHD to be of further service.

First the issue of medication will be discussed. Use of medication is always a personal choice, and one which is surrounded by controversy. Some experts consider methylphenidate a "miracle," while others call it a "chemical straight jacket." Some feel it is overprescribed and question the validity of the disorder, while others prescribe it readily with little evaluation or follow-up (Goldstein, 1998).

It is also typically the first issue addressed in treatment planning. Coleman (1993) proposes "Medication

is an important part of the treatment plan for children with moderate to severe ADD. When children are medicated appropriately, management techniques are more likely to be effective" (p. 62). The medication group considered most effective is stimulants. These include Methylphenidate (Ritalin), Dextroamphetamine (Dexadrine), and Pemoline (Cylert). If the stimulants are not a good choice, tricyclics are usually the next option. These include Imipramine (Tofranil), Nortriptyline (Pamelar), and Amitriptyline (Elavil), among others. Each medication does have the risk of side effects, and this fact needs to be taken into account when monitoring effectiveness. As Alexander-Roberts (1994) points out, "stimulant medications only reduce symptoms. They are not a 'cure,' nor do they have long-lasting effects. They are just management tools that work to help the individual improve his or her ability to stay focused and on task" (xi). Nadeau agrees medications are no "magic bullet" in spite of the sometimes drastic results (1996).

Most books that address the treatment of ADHD list the most commonly prescribed medications for ADHD, with information on dosing, side effects, duration, benefits, and precautions. Most recently a longer acting form of methylphenidate has become available. It is called Concerta and is reported to be effective up to 12 hours. The most common side effects of stimulant medications include loss of appetite, weight loss, sleeping problems, irritability, restlessness, stomachache, and headache. If some of these side effects occur, they frequently diminish or disappear over a short period of time. If side effects are severe, stimulants should be discontinued (Barkley, 1991; Coleman, 1993; Parker, 1999). Another issue to be considered before prescribing a stimulant medication is the family. In families where there is a history of substance abuse, there is the risk of medications being abused by parents or other family members (Phelan, 1990). The attitude and level of cooperation at the school should also be considered when medication needs to be administered at the school. In recent years the abuse of Ritalin in the school setting has become a concern. Without close monitoring, children can easily pretend to take their medication and later pass it on to others. Not only does this behavior affect the child's school performance, in an age of "zero tolerance," it puts the involved children at risk for suspension, expulsion, and legal consequences.

Tricyclic antidepressants are the second-line medications when stimulants are not successful or are contraindicated. The benefits of tricyclics are that they last longer, eliminating the sometimes embarrassing noon-time medication at school. Tricyclics may be particularly helpful for adolescents with ADHD and signs of depression. However, tricyclics may not be as effective in improving attention and concentration or reducing

hyperactive-impulsive behaviors. The most common side effects include drowsiness, dry mouth, constipation, and abdominal discomfort. With stimulants and tricyclics there is the danger of overdose (Coleman, 1993; Nadeau, 1996; Parker, 1999).

Clonodine, an antihypertensive, and Tegretol, an anticonvulsive, have been used successfully with some overly aggressive children. Other antidepressants, such as Prozac and Bupropion have shown some efficacy for ADHD, but are not quite as effective as the stimulants. (Alexander-Roberts, 1994; Goldstein, 1998, Nadeau, 1996; Phelan, 1990).

With all medications, close follow-up is important. There is also disagreement about the length of time medications are needed. Some experts believe that medications are no longer needed by late adolescence and adulthood, and should be discontinued. Others see use into adulthood legitimate as long as the individual with ADHD finds it helpful. The best way to evaluate the continued need for medication is through trials of tapering off or discontinuing the use of medication for short periods of time and note any differences in symptoms. Goldstein recommends doing these trials twice a year (1998).

Education is an integral part of treatment for ADHD. As stated earlier, it should begin at the time of assessment and include a thorough explanation of how ADHD affects the family functioning on many levels (Everett, 1999). Individuals with ADHD are helped greatly by education on what does and does not cause this disorder. They gain the understanding that they are not responsible for having ADHD; nor are they lazy, crazy, or bad. It is also helpful for the entire family, in that parents are relieved of guilt and blame for the disorder and siblings may feel less animosity toward their sibling with ADHD. This understanding needs to be disseminated to all who are involved with the individual with ADHD to reduce negative interactions and isolation. This includes educating those in the school and employment settings, and is an opportunity for advocates to facilitate understanding that will benefit many. This could be accomplished through presentations at conferences or inservices. Continual education is an important part of the long-term treatment plan, as the child grows into adulthood and developmental needs of the child and the family change.

Education on the etiology of ADHD is followed by training in skills to manage the symptoms at home, in school, in the workplace, in social environments, and to assess what environmental accommodations are most helpful. Most books and manuals have been geared toward children, but more recently books and manuals are

emerging that focus on the needs of adults. Other books look at treatment of ADHD from a developmental perspective, addressing needs at different ages and stages of life. Interventions for ADHD (1998) by Phyllis Anne Teeter and Family Therapy for ADHD (1999) by Craig A. Everett and Sandra Volgy Everett, are two excellent resources from this perspective. Since the needs, goals, type of intervention, and targets for intervention may change as the individual with ADHD progresses in developmental stages, these issues are addressed from that approach. Each person has unique strengths and challenges which dictate the treatment plan, but there are common issues which are the topic of this discussion.

Interventions in the Family

The first area of focus for interventions is within the family system. Jerome A. Price, director and founder of the Michigan Family Institute, discusses the family as the treatment source for problems with children and adolescents. According to Price (1996), the key to seeing the "problem in a therapeutic way is to expand the therapist's view of who's involved in the problem and focus on the people already in the child's life (p. 45). Each family member plays a role in maintaining the ADHD, and each role needs to be examined and changed appropriately to change the affect of ADHD in the family.

For toddlers through age five with ADHD, the training and interventions are aimed at parents, other caregivers, and teachers. Teeter explains, "In this stage, interventions typically focus on psychosocial (e.g., parent-child bonding and attachment) and peer relations (e.g. play activities and social skills) and behavioral adjustment (e.g. parenting skills and classroom management techniques)" (1998, p. 84). Interventions for language-delays, and the use of medication may also be explored.

Since parents are the leadership in the family and create the mood or atmosphere in the home, their emotional health is fundamental to enable learning, implementation, and continued use of interventions to occur. An assessment of the current status of the parent's emotional and mental health, as well as what support and assistance would be beneficial, is needed. As noted earlier, it is not uncommon for parents of children with ADHD to also have this disorder. Expecting a parent with ADHD to learn and consistently implement new skills under stressful and chaotic conditions is a set-up for failure (treatment for adults with ADHD will be discussed later in this section). Many mothers of children with ADHD also suffer from depression. The characteristic lack of energy and negative

mindset of depression may also doom treatment efforts. If depression is suspected, a referral to the family doctor is indicated. If the family consists of two parents, assessment of the marital dyad is needed to establish whether damage to that relationship has reached the extent that it may interfere with their ability to work as a team. The marital relationship is the most crucial and interventions are typically aimed at improving communication, resolving problems regarding intimacy, sexuality, finances, sharing parenting and household responsibilities, and possibly substance abuse. This is accomplished through couple counseling (Lynn, 1996).

It is important to be prepared for resistance from the parents at this point, as the typical expectation is that the child with ADHD will be the focus of attention. According to G. R. Patterson, the "therapist must be skilled in coping with the resistance to change that characterizes the majority of families referred for treatment" (1982, p. 304). It is vitally important to form a trusting relationship with parents from the beginning, providing needed empathy and hope. As parents begin to feel hopeful and less inadequate, the importance of and power in their position as creators of change through the interventions can be emphasized, thus encouraging and empowering them to actively participate in treatment (Everett, 1999).

Suggestions for regaining and maintaining emotional and mental health for parents are numerous, although most times not directly related to managing the stresses of parenting a child with ADHD. At the core is a thorough understanding of how ADHD has affecting their sense of themselves as individuals and parents and the effects on their life in general, as well on their marital relationship. Once these effects are identified, they are addressed. Common recommendations include planning time for oneself to participate in personally enjoyable activities, learn relaxation techniques, attend support groups, and make conscious efforts to maintain fun and intimacy in the marital relationship.

One area couples may shy away from discussing is how ADHD in one partner affects their sexual relationship. Both men and women complain of either an inability to pay attention during sex well enough to enjoy it, or the opposite: a hyperfocused hypersexuality. As a result, each partner may be blaming themselves for the problems to the point of avoiding sexual encounters. Medication has proven helpful by reducing distractibility and allowing the person to actually "be there" and enjoy the experience. Knowing the problem is ADHD, the couple can openly talk about it and make accommodations, such as timing and soothing background music, increasing the connection between partners (Hallowell, 1993). Resolving these issues increases the ability of the parental unit to

function effectively for the benefit of the entire family.

George T. Lynn, author of Survival Strategies for Parenting Your ADD Child, and parent to a special needs child, dedicates a chapter to self care for parents. He explains "You can help your child manage his stress only if you are first able to manage your stress. It is your shoulder that must be available for your child to cry on and scream on. No one else can do this for him...This challenge from your child cannot be met unless you take care of yourself" (1996, p. 55). Nine practices for self-care are gathered from his personal experience and that of his client families. They are as follows:

1. Accept the challenge to build your strength.
2. Make sure that you have work in your life that nourishes you.
3. Take more control of your life.
4. Take control of your encounter with your local school district.
5. Attend to your physical well-being.
6. Cultivate an activity to release the stress of unfinished business and calm your mind every day.
7. Choose your friends carefully, let your love out, and let go of "toxic" people.
8. Choose your professional helpers carefully.
9. Play!

Lynne suggests keeping a journal or chart of your stressors, how you manage them, and how well those techniques work (1996, pp. 56-63). Even parents without special parenting challenges forget to make time for self-care. For parents dealing with ADHD, this is critical.

Another issue parents often face is grief and loss. As the vision of the dream child is shattered by the everyday realities of living with ADHD, confusion and anger frequently set in. Lynn dedicates a chapter, "Moving Through the Grief Cycle," to the issue of accepting the loss of the dream child. In this chapter, he describes the common responses of parents to the diagnosis, explores the process of grieving, and offers advice to facilitate a positive outcome. Grieving is not a linear process. There are times that acceptance and a positive attitude are challenged by the resurfacing of old "dreams," new problems, or fatigue from the constant energy and awareness demanded to parent a child with this disorder. With an understanding of the grieving process, provided through therapy, individuals can take measures to handle the setbacks and steadily move toward acceptance. If the family comes to therapy years after the diagnosis, with a history of fragmented and unsuccessful attempts to manage the ADHD, the therapist will likely need to assist the parents in dealing with feelings of guilt and anger, toward themselves and others, for not having dealt more effectively with the disorder and preventing the negative ripple

effects, including co-morbid disorders. This is also a process of grieving.

The child with ADHD may also experience grieving, grappling with the sense of being somehow defective. Parental assistance with education and support is very important during this time. Assuring the child that s/he is not alone and that ADHD is manageable will set the stage for maintaining healthy self-esteem and active participation in learning new skills. As the focus moves away from the negative effects of ADHD and toward building on the child's positive characteristics, the child is aided in acceptance of this "difference," and building a resilient attitude.

Low self-esteem is frequently apparent intergenerationally. Both parents and child struggle with feelings of inadequacy due to the repeated negative experiences. Self-esteem is improved as the various interventions are successfully implemented. Educational interventions increase understanding, decrease isolation, and provide empowerment. As past failures are replaced with successful experiences, a positive ripple effect flows through the family. Renewed hope and increased self-esteem is experienced by both generations (Everett, 1999).

Next is learning effective parenting skills. A good first step is to identify the current parenting style. There are four common types of parents, which are categorized similarly by different experts. The dominant or authoritarian parent tends to be demanding and controlling, limiting child autonomy and self-control, resulting in children who are unhappy, insecure, frustrated, and defiant and unmotivated in adolescence. The neglectful or uninvolved parents tend to be indifferent, undemanding, and rejecting, resulting in children who are noncompliant, demanding, and disruptive. The lenient or permissive parents are typically nurturing and communicative, but low on authority and control. Their children tend to be immature, have problems with impulse control, and react oppositionally when faced with rules. The authoritative or firm and loving parents are nurturing and responsive to their children while setting reasonable limits and maintaining high standards for maturity. This style typically results in children who have high initiative and are able to meet age appropriate challenges (Alexander-Roberts, 1994; Teeter, 1998). Coaching on how to use the most effective parenting style and techniques is available through many parent training models which are effective with ADHD, using modifications to account the symptoms of ADHD. Thomas Phelan, Ph.D developed 1-2-3 Magic, an approach which is simple and straight-forward, easy to learn and follow. Most libraries have the training video for 1-2-3 Magic, as well as books with similar strategies.

While parents must find the methods that are a good match for their child, experts on ADHD recommend many of the same effective discipline strategies. Negative behaviors may be reduced or eliminated by ignoring

(minorly bothersome behaviors), using time-out, grounding, withdrawing privileges, using token economy, or by allowing natural consequences to teach (unless it would present a risk to the child). Increasing positive behaviors can be increased by using verbal and material reinforcement, frequently catching and praising the child being appropriate, showing love consistently, and expressing faith and confidence in the child's strengths and abilities. Developing a behavioral contract with the child provides a reference of agreed upon expectations and helps build a team approach. Using a sense of humor and creativity can get the job done in a friendly manner, such as when a responsibility is occasionally forgotten. Alexander-Roberts (1994) gives an example of a note to a boy from his bike, in which the bike shares "I had a horrible day today. First, your mother backed out of the garage and almost ran me over. Then some guy came to fix the washer and almost hit me. To top it off, it rained all afternoon and now I'm soaking wet. I'm waiting for you to put me away and dry me off" (p. 105). A note like this is likely to make more of an impression than nagging or threats from a parent, and also maintains a positive atmosphere in the home.

Regardless of which method is chosen, the objectives are to increase the appropriate behaviors, decrease the unacceptable behaviors, and teach the child to control him/herself. Important adjustments for parents and care providers of children with ADHD include: maintain an extra patient and positive attitude, make frequent eye contact with the child while speaking, keep directives short and specific, provide transitioning time between activities, use a reward to cost ratio of between 3-5 to 1 to provide for adequate positive reinforcement (some suggest as high as 10 to 1), ignore small misbehaviors, identify feelings, and give plenty of positive feedback. Planning ahead, using visual cues and prearranged signals reduce the risk of the child being singled out when in public (Alexander-Roberts, 1994). Topics specific to the family with a teenager with ADHD, include balancing structure and supervision with the increased independence normal for this developmental stage. This is especially difficult for parents if the teenager experiences problems outside the home (Parker, 1999). Also, by adolescence, an individual may experience greater levels of discouragement and frustration, increased awareness of being different, less self-confidence, and lower self-esteem. Without adequate support and coping skills, the response to increased complexity and demands of their expanding world increases the risk of violence at home. The interventions for teenagers focus primarily on family interactions, parent and sibling issues, and are facilitated through family therapy. Guidelines for parent/teen interactions include: give unconditional positive regard, remember ADHD is a disability and see the positive side of ADHD, treat the teen as an equal partner in treatment, make time to enjoy and

nurture the teen, set reasonable expectations, depersonalize problems, use good communication skills, respond with calm in crisis situations, provide modeling and coaching. Parents can provide opportunities for success for the teenager in everyday events, such as handing over written notes of assigned errands or grocery lists before sending them out the door. This allows the teen to experience being a contributing member of the family. Ongoing positive support is most important for a teenager with ADHD (Dendy, 1995).

Family issues for adults with ADHD focus on the marital dyad, parenting, and parent-child relationships, as discussed earlier. No matter what the age of the individual with ADHD, therapy and the use of structure, routine, and charts/lists are very beneficial for building and maintaining stability within the home. Use of these types of tools makes life run more smoothly and prevents many problems for the individual, the family, and others involved with the person with ADHD. The common frustrations of lost items, missed appointments, and lack of follow-through can be avoided. And those inevitable problems can be resolved from a solid foundation and with improved communication. This facilitates more positive relationships and helps maintain a lower stress level for everyone (Everett, 1999).

Learning and implementing new parenting and organization techniques must be supported with patience and encouragement by the helping professional, especially in cases where a parent also has ADHD and may struggle with their own need for healing, along with the extra demands of remembering and implementing different behaviors until they becomes routine (Barkley, 1994). Since the symptoms of ADHD can radiate in a thousand directions, a common temptation for parents is to try to fix everything at once. Harold Levinson, M.D., recommends "Take one day at a time, and deal with one problem at a time" (1990, p. 197). Prioritizing problems and addressing the most troubling first increases the likelihood of seeing improvement, and reduces the risk of parents and/or child feeling overwhelmed and giving up. Families with ADHD need to look for every possible way to set themselves up for success and counteract the effects of previous failures. Cognitive-Behavioral Training (CBT) has shown potential for teaching individuals to slow down and think through situations and problems. Research suggests that CBT improves social skills and problem-solving abilities. CBT has been shown to be more successful with older children and adults, and studies show that training has been generalized and improvement maintained over extended periods (Kirby and Grimley, 1986). Some frequently recommended tools are found, with slight variations, in the many books addressing management of ADHD. These consist of calendars, weekly planners, behavior charts,

posted schedules, and problem-solving worksheets, to name a few (Nadeau, 1996; Parker, 1999).

Siblings are also affected by ADHD and gain from intervention as part of the family system. Education increases sibling understanding and acceptance of the disorder, as well as learning how it affects them. Therapy provides a safe environment for siblings to process feelings of anger, frustration, and resentment, and move toward improving the relationship with the sibling with ADHD. Siblings are then able to become positive members of the support system, as well as learn how to assure their needs are also being met. This also opens the way for the siblings to make healthy adjustments to the presence of ADHD, preventing development and escalation of further problems and causing potentially permanent damage to valuable family relationships. In their treatment guidelines, Everett and Everett (1999) add family therapy after some progress has been made in parent management skills and bonding through play therapy. These family sessions include the parents, the child with ADHD, the siblings, and any live-in relatives or potential caregivers. According to the authors, "The greatest potential for therapeutic change regarding the family's perceptions of, and reactions to, the child's ADHD symptoms lies in these family sessions" (p. 187).

Other interventions that are valuable, both within and outside the home, include teaching problem-solving skills, communication skills, and self regulation skills to the child with ADHD. Involving siblings in this process provides consistency in expectations and interactions within the family. Again, there is no shortage of resources to teach these important skills. Books such as Teenagers with ADD: a Parents' Guide (1995) and Put Yourself in Their Shoes (1999) are excellent, and easy to use. Reliable experts include Russell Barkley, Ph.D.; Thomas Phelen, Ph.D.; Harvey Parker, Ph.D.; and Sam Goldstein, Ph.D., to name just a few in a rapidly growing specialty. ADHD interventions are addressed from differing perspectives and need to be investigated to find what best fits the learning style of the parents and child. Some authors use the framework of specific problematic behaviors, others focus on a particular environment, while others categorize treatment information from a developmental standpoint.

Basic adjustments for the ADHD population involve keeping guidelines short and simple, patience and repetition, and lots of encouragement. While teaching new skills and interacting with the child, it is especially important to avoid nagging, arguing, and power struggles to minimize negative interactions. The characteristics of ADHD call for increased attention to using language that is positive and non-confrontational. Consequences must be consistent and immediate to have effect. Modeling skills such as identifying and managing feelings, social

interactions, and organization, provides visual and experiential learning, a preference for many with ADHD (Dendy, 1995; Parker, 1999). In-home services, such as parent training and therapy provide the perfect milieu for this modeling.

The skills that are taught within the family system are also valuable outside of the home. Communication skills, problem-solving, managing emotions, and organization skills increase ability to function in any system. Assuming the building of skills mentioned above are continued into other environments, further discussion will focus on those additional issues specific to an individual with ADHD and to the particular system or environment.

Therapy provides a beginning for the healing, and facilitates further healing as the family is encouraged to reach out to other families with ADHD. Support groups for the family encourage acceptance, healing, and moving on. Parent support groups such as Children and Adults With Attention Deficit Disorders (CH.A.D.D.) have been a lifesaver for many families dealing with ADHD. Through groups such as CH.A.D.D., individuals and their families meet others facing the same issues and are able to share without embarrassment, obtain encouragement and support, and trade useful information based on personal experience (i.e. working with teachers on IEP's, advocacy for disability rights, parenting tips, etc.). CH.A.D.D. meetings often include a speaker on a topic related to ADHD, and each local chapter has a lending library of resources for parents, teachers, and anyone else interested. This connection reduces the feelings of isolation and misunderstanding for the entire family.

Interventions in the Social Context

As the individual with ADHD moves into the social systems of neighborhoods, friendships, and social organizations, additional skills are needed. Parents of younger children are advised to inform playmates' parents of the presence of ADHD, how it expresses itself in the child, and interventions that may be helpful during play time. It is important to make the same notification to other caregivers. This reduces the chance of problems due to misunderstandings, and gives the parent of the child with ADHD an opportunity to assess the knowledge and receptivity of these adults. It is that parent's responsibility to protect the child with ADHD from people who are unaccepting of the diagnosis, and would likely have negative interactions with the child. Parents from support groups, such as C.H.A.D.D., oftentimes arrange for their children to socialize together. The advantages include knowing the supervising adult understands and is accustomed to ADHD symptoms and behaviors, similar parenting and behavior management style, and the peace of mind knowing the child is in competent hands. There are also

several commercial programs for building social skills in young children which use role play, modeling, performance feedback, and transfer training. This is important because children with ADHD often do not generalize learning as easily as non-ADHDers, so practice is obtained in a supportive, natural environment. This increases the likelihood of long-term retention of the social skills (Teeter, 1998).

Teenagers moving into the time of greater freedoms and responsibilities need ongoing support and coaching to deal with the more complex issues of dating, driving, handling money, availability of alcohol and other drugs, and dealing with the inevitable consequences of inattention, impulsivity, and hyperactivity. By this age self-monitoring may be used, along with developing coaches, or assistants. It is important for parents and teenagers to be able to discuss these issues, the impact of ADHD, and negotiate increased freedoms. This difficult task is best done in small steps, and as one mother states:

> At some point, we have to let them assume total responsibility and the best way to do that is step by step, giving them as much as they can handle where it's appropriate. We don't own and we can't control the consequences of our kids' ADHD. It's painful, but don't be afraid of your child's pain. Although we can walk through it with them, we can't take it away from them. Going through the pain does build character. The kids learn the lessons they need to learn (Alexander, p. 157).

As a teenager shows responsibility by abiding by the established rules, increased freedom may be earned. Parents need to be very clear about changes in limits, assure they are understood, make changes in small increments, and calmly follow-through with consequences for infractions, with a time frame of when the opportunity to exercise the freedom will again be provided (Alexander, 1994). Effective consequences for teenagers include loss of telephone or driving privileges, or grounding. Taking a punitive approach is counterproductive, as it does not create more neurotransmitters. Over a period of time the additional negative interactions may, in fact, lead to negative, aggressive behavior. Poor impulse control may make it difficult for the teen with ADHD to refuse temptations. A parent can help the teen learn to stop and think before making a decision. If a poor decision is made, it is important to examine the situation and look at alternative behaviors. This needs to be done repeatedly with a child with ADHD. Open communication between parent and child is vitally important, as at this age the consequences may involve pregnancy, legal problems, injury, or even death. Regularly scheduled family meetings are an opportunity to build an atmosphere of open communication, making more difficult discussions less stressful. Parents can

provide assistance with social functioning by encouraging use of a calendar and lists for plans with friends to reduce friction between friends and prevent social isolation. Studies have shown that teenagers with poor peer relationships are at a higher risk for antisocial behaviors and substance abuse. Social skills coaching from a parent or trusted adult may reduce this risk and improve self-esteem. This coaching would include such things as how to start and end a conversation, how to keep focused and listen during conversation, and tuning in to non-verbal messages. Parents also need to be ready to remind the teenager of their strengths and accomplishments to counter the frequent frustrations that assault their teen's self-esteem as well. A friend who agrees to help may also give a secret sign, signaling the need to stop a behavior and increase self-monitoring.

Parent's who are concerned about their teens mood or behavior, or are having trouble dealing with their teen, should not hesitate to seek professional help. There are many resources, including classes aimed specifically for parenting teenagers, including teenagers with special needs. Again, contacting a C.H.A.D.D. representative and brainstorming options would be a good place to start. Parents need to be forgiving to themselves also. Parenting a child with ADHD is a challenging and demanding responsibility. It is important to remember that these children are different in that many of them do not respond to traditional punishment and rewards the same as teens without ADHD, and also, that deep down, most of these children want to please their parents and do well; they are mightily challenged, too (Dendy, 1995).

The social impact for adults with ADHD appears to be most frequently in the area of inattentiveness and disorganization. Friendships are strained by frequent interrupting during conversation, consistently being late, or repeatedly forgetting commitments or information. A spouse who is willing to assist as social secretary can be a lifesaver. Hiring a coach is another option. The primary purpose of a coach is to help the individual with ADHD create the structures necessary to function successfully and to teach practical approaches to manage everyday challenges. For coaching to be effective, the person with ADHD needs a strong desire for personal growth backed by action (Ratey, 4/10/01). As with the teenager, learning to use calendars, date books, and lists are important to successfully navigate adult responsibilities.

For some adults with ADHD, the need for stimulation and excitement remains. These needs can be met through challenging sports such as rock climbing, sky diving, or any of the currently popular "extreme" sports. Unfortunately, the abuse of substances is too often the avenue taken. Adults with substance abuse problems should

be assessed for ADHD, and provided with less harmful alternatives, along with referral for treatment for the ADHD. Addictive behaviors, such as gambling, shopping, or sexual activities are considered to result from the need for stimulation and lack of impulse control. Individuals with ADHD are also at higher risk of experiencing problems in these areas. A watchful stance toward balance in all life areas must be maintained.

Educational Interventions

Interventions in the educational system will be divided by the party responsible to initiate the intervention. They are the parent(s), the student, and the school. Ideally, these entities work together toward the same goal: the success of the student. There is an investment of time and effort required from parents who want to be sure that their child with ADHD receives the appropriate educational services. Illiciting the assistance of an advocate may be a wise choice for parents who are already feeling overwhelmed by their multiple responsibilities. First, the parent needs to make the decision of whether or not to advise the school that the student has ADHD. Alexander believes it is in the child's best interest to tell, for a few reasons. She cites the seven hours per day a child spends at school, where the teacher and support staff are responsible to meet the child's needs appropriately. Also, the staff can assure medication is taken and supply feedback on it's effectiveness. The child loses out if behaviors are not correctly understood and managed, and is at risk of being labeled a troublemaker or failure (1994). The bad reputation may have negative repercussions for the child and his/her other family members, both within the school system and socially, increasing the isolation. If, however, the child's symptoms are so mild as not to interfere with receiving an education, or the school district is not supportive of recognizing and making accommodations for ADHD, maintaining privacy may not be harmful to the child with ADHD.

Lynn (1996) believes that "as a parent of a child with attention differences you will find sooner or later that your child is in need of special educational services" (p. 185). He agrees that getting the appropriate services involves time and planning, and reports that the quality of the services makes it worthwhile. The parents should place a call to the principal and visit the school, with the child, prior to the beginning of the academic year. This affords the parents the opportunity to assess the knowledge and attitude of school personnel about ADHD, and present themselves as involved in their child's education. The student also is able to meet new teachers, obtain his/her class schedule and locate classrooms and locker. This meeting is a good time to pose questions to teachers about their experience and comfort level with ADHD. If any of the teachers are not well-versed, a friendly note

accompanied by helpful information about the disorder and classroom tips could be dropped off for review before the beginning of classes (Alexander-Roberts, 1994; Levinson, 1990).

According to Lynn, the first step is to "get a clear picture of what you want" (p.185), and not be intimidated by the educational jargon or technicalities (1996). While ideally the school district would be on the look-out for students who have hidden disabilities such as ADHD, so as to provide services to support success, this is not always the case. Parents need to be informed advocates for their children, advising the school of the disability and actively participating as equal partners in the planning of services. By developing an atmosphere of cooperative teamwork, the parents are able to provide important information about their child's strengths and challenges, interests, and what interventions are, and are not, effective (Dendy, 1995). If the student continues to struggle when accommodations are in place, the parents need to advocate for their child, working with the teacher and school to make needed changes. Parents have the right to request changes in their child's plan at any time. Dendy dedicates a chapter in her book to effective adaptations, which is organized according to problematic symptoms. She includes a quick reference chart, where a parent can match the observed behavior with recommended adaptations to suggest to teachers (1995). Readily available and easy to use charts help parents do their job of advocacy with less stress and time investment, freeing their energy for self-care and other family activities.

There are three legal avenues of making the needed changes, which are informal accommodations, a "504 Plan," and an Individual Education Plan (IEP). Which one is appropriate is based on the degree of disability. Any parent of a student with ADHD needs to have at least general knowledge of the above, as well as the legal responsibility of the school district to make a "reasonable accommodation" to provide a "free and appropriate public education "(FAPE) to children with special needs in the "least restrictive environment" (Lynn, p. 207) under Section 504 of the Rehabilitation act of 1973, and Part B of the Individuals with Disabilities Education Act (I.D.E.A.) signed into law in 1993 (Lynn, 1996; Dendy, 1995). It is best for the parents to have a cooperative working relationship with the school. However, if the school is not responsive to the needs of the student with ADHD, it is the parent's responsibility to understand the bureaucratic challenge, to seek assistance from parent advocacy groups, and see that services mandated by law are provided. Resources are listed in the legal rights pamphlet provided by the special education department, or from the local Learning Disabilities Association. Due to the increase in mandated services and shrinking resources, schools have been pushed into the position of resisting change unless they cannot afford to

resist it. And, according to Lynn, "parents are the only ones who can create an economic penalty for inaction" (p.196). He discusses the motivations and maneuvers of the players in the system, and the balancing act of choosing the best position and actions to realize the goal of proper accommodations, in the chapter "Meeting the challenge of school-caused stress." Lynn forewarns that taking on this challenge involves a commitment of time, energy, and possibly financial resources. He also assures that it is well worth the effort in the long run (1996).

One thing parents are cautioned not to do, is to take over the responsibility of the school for providing the education. Alerting the school of the student's need of additional help is preferable to risking the home turning into a war zone over many hours worth of homework (Dendy, 1995). Parents help the student succeed by supplying a quiet study spot, organized supplies (writing materials and possible duplicate textbooks), encouragement, and assistance as needed. The rest is the responsibility of the school and the student. By modeling advocacy and negotiation skills, parents prepare the student to take more responsibility for obtaining services, especially if education beyond high school is pursued.

In the college years it is more appropriate for parents to act as support persons, coaching the young adult in self-advocacy. While colleges have services available for students with ADHD, it is the student's responsibility to prove eligibility. Access to services usually requires a current psychological report verifying the handicapping condition, describing the nature of the problem, and making recommendations for accommodations and interventions (Teeter, 1998). The prospective student needs to have an understanding of how their ADHD affects learning and what accommodations they will need in college. Then they need to research which colleges provide what type of services. Parker identifies The K & W Guide to Colleges for the Learning Disabled: Fourth Edition, (1999) by Marybeth Kravets and Imy F. Wax, as an excellent resource.

Teacher and school interventions overlap. Lynn lists the most important ingredients for success as the right teacher, and the right teaching methods. This includes the following qualities: a teacher who enjoys and is effective with ADHD students, flexibility in choices within a structure and routine, visual and hands-on techniques which incorporate student interests, material presented in small chunks, help with transitions, access to a computer to assist learning and assignment completion, a quiet place to take refuge when needed, and that assignments be kept short, among others. Physical Education should provide opportunities in both individual and team sports. Lynn explains "Many A.D.'rs are more successful doing individual sports activities because of the complex interpersonal

language understanding required in any team sport" (1996, p. 187). Other teacher behaviors that help the student with ADHD succeed include seating the student away from distractions, near good role models, or close to teacher; use attention getting cues before important announcements (i.e. "Class, write this down. It's important."), making eye contact or standing next to student when giving instructions, using multisensory approach, highlight key information, and provide outline of lectures. Edna D. Copeland, Ph.D. and Valerie L. Love, M.Ed. (1995) recommend additional interventions. They explain that by educating the entire class on how none of us are perfect, identifying different strengths and disabilities (i.e. allergies, poor vision), and normalizing the use of different accommodations and strategies, teachers promote a more realistic and accepting attitude in all students, disabled and non-disabled. Using encouragement cannot be overemphasized. All children need encouragement; the student with ADHD needs an extra dose to offset frustrations. Humor is also a powerful intervention, and can be used to "stimulate, motivate, illustrate, and ease tensions" (Copeland, p. 100). Students with ADHD respond positively to being given important responsibilities, such as instructional aide. Peers can also be involved with positive reinforcement, learning to give encouraging and positive comments to each other about effort and results; and as learning partners. Teaching the entire class relaxation techniques, and using these methods when the classroom looks like its headed for trouble to prevent serious difficulties is also an effective technique that does not identify the child with ADHD as having the problem (Fowler, 1995).

The school district's role in providing effective interventions is in following through with the provisions of the law and supporting the efforts of the teaching staff. It is the school district's responsibility to know and follow the laws applicable to all children with disabilities in providing a free and appropriate education (FAPE). This right is protected under Section 504 of the Rehabilitation Act of 1973, and Part B of the Individuals with Disabilities Education Act (I.D.E.A.) signed into law in 1993. The policies addressing the needs of children with ADD within general and/or special education were clarified in a memorandum from the assistant secretary of the U.S. Department of Education, Office of Special Education and Rehabilitative Services and addressed to Chief State School Officers, dated 9/16/91. The severity of the ADHD determines which law applies, however, any child with this disorder is protected under federal law. According to Copeland and Love (1995):

> While the degree of services that the law insists must be provided by state and local school agencies has broadened considerably over the last several years, specific plans of action or funding for such

> increased entitlements have not been forthcoming at the federal level. As a consequence, many state and local school districts are likely to be caught between the increasing demands of parents for services consistent with their children's rights under federal law, and pragmatic considerations that necessary money and staff are not available to provide all the services which are necessary (p. 11-12).

This frequently results in school districts being less than forthcoming to uninformed parents about their rights and the responsibilities of the school district. As discussed earlier, this makes understanding how the educational system works very important for parents advocating for their child's educational rights. In the end, it may be the parents, parent advocates, and possibly attorneys, who force the school district to follow-through with it's legal responsibility.

On a more positive note, there are initiatives to identify the most effective techniques to provide an education to adolescent students with ADHD. One such program is The Wisconsin ADD Project, which was designed to improve educational services for children and adolescents with ADHD. Under this project, selected school districts have been utilizing a problem-solving model (type of mediation and liaison service) and Differentiated Instruction Model (use of multiple teaching approaches). While research results are limited, the initial responses from parents and teachers about both models have been encouraging. Other interventions that are effective for younger students have been found to be equally needed and effective throughout the high school years (Teeter, 1998).

Workplace Interventions

Interventions affecting the workplace actually should begin prior to entering the workforce for the teenager with ADHD. Under IDEA, each student's IEP must include a statement of the transition services needed by the student, beginning no later than age 16. In junior high school assessment of interests, talents, strengths, and weaknesses needs to be matched with an exploration of career opportunities. In high school the vocational plan needs to be refined, classes scheduled to support the plan, and appropriate adjustments and re-assessments made along the way. The student should also be involved in volunteering, and/or work experiences to test skills, level of interest, and gain real-life experiences. Work related experiences may include job shadowing, internship, or involvement in a paid work experience program. In the paid work experience, the student typically attends classes in the morning, works in the afternoon, and earns high school credits for the work experience (Alexander-Roberts, 1994; Parker, 1999).

The young adult with ADHD may choose to enter directly into the workforce after graduation, in lieu of further education. Hopefully, earlier considerations about what type of work best fits him/her have resulted in a good match. Without specialized training, these jobs will likely be entry level positions. Some of these jobs offer promotion based on performance, and depending on the match, this may be a good career path or a nightmare. ADHD creates the same challenges in the workplace as at school; only employers are much less likely to tolerate tardiness, poor quality and performance, or co-worker problems.

Interventions and accommodations can best be divided by three areas: job performance, environmental considerations, and supervisor/co-worker relations. Interventions the employee with ADHD can implement without revealing the disability include use of self-monitoring to stay on task, reduce distractions, and watch appropriateness of interactions with others in the workplace; establishing the habit of planning out daily work or projects, and faithfully working the plan; creating personal structure by prioritizing, using written notes and visual prompts, and setting reasonable deadlines; as well as using time management tools, such as calendars and planners. Nowadays, employers are much more understanding of differences in working styles and may be willing to make suggested adjustments without being aware of the employee's preference having to do with a disability. This is especially true when the employee is a hard worker and valued (Nadeua, 1996; Parker, 1999).

The Americans with Disabilities Act (ADA) offers protection to the employee with ADHD if there is a documented disability, if the employee is "otherwise qualified" to perform the job, has been denied a job or benefit because of the disability, and the employer is covered under the ADA. The employer is not, however, required to make accommodations for a qualifying disabled employee unless the employer is informed of the need for accommodations. If the employee chooses to disclose the disability to the employer, it is the employee's responsibility to inform the employer of the types of reasonable accommodations required. Reasonable accommodations, those which allow the employee to perform the job without putting undue burden on the employer, are not specifically spelled out in federal law for ADHD. Suggestions include modifying the environment to create structure and reduce distractions (wall divider, fan or radio in background), simplifying instructions and using aids (i.e. audiovisual, well-placed written prompts), and reasonable schedule adjustments. The Job Accommodations Network (JAN) is a service of the President's Commission on the Employment of People with Disabilities, and is an excellent resource for free information on accommodations; many of which involve little or no cost to implement

(Parker, 1999). Other suggestions include training in time management, dividing work into smaller assignments and giving one at a time, more frequent feedback or reviews from supervisors, plan assignments to allow for periodic mobility, and simplify written requirements.

Nadeau addresses helpful work related adaptations sorted by the ADHD symptoms. For hyperactivity/restlessness, she recommends finding a job that is physically active if possible; or building exercise into the daily routine, whether before or after work, during a quick break, or at lunch (bring a packed lunch to allow time). She also suggests either writing notes or bringing along a small, unobtrusive object to handle during long meetings. Additional tips she offers to manage distractibility includes arranging work day to provide blocks of uninterrupted time; use voicemail and answer calls during specific time blocks, rather than let random calls interrupt work; if workspace is not private, look for unused private space when maximum concentration is needed; keep work surface clean and clear; utilize flextime to work at more quiet times earlier or later than the typical office hours; or take some work home, if possible (1996).

The decision of whether or not to inform the employer is a personal one, and involves considerations of the attitude in the employment setting and how severely ADHD symptoms affect performance. Since information on ADHD in adults is relatively new, few employers are familiar with working with employees with this disorder. The individual with ADHD would be well advised to request a meeting with his/her supervisor to provide information related to effects on the job. The employer be told what steps are already being taken to improve performance, and what other accommodations would be helpful. If possible, the employee should have an expert with whom they are already working attend the meeting to provide further information.

Experts agree that it is a combination of items that best predict success in the workplace for the individual with ADHD. These include a person who knows him/herself well, has a positive attitude, is goal-oriented, determined, and able to seek assistance at an appropriate level, matched with an environment which is supportive, positive, stimulating, has mentoring available, and is a good fit between skills and job requirements (Nadeau, 1996; Parker, 1999; Teeter, 1998). The choice of career is essential to being successful. According to Phil Sorento, president of Humor Consultants, the key to is understand the gifts of ADHD, turn them into assets, and capitalize on them (Kay, 1999). Professionals working with the individual with ADHD, whether a teacher, guidance counselor, doctor, or therapist, are in a position to assist with self-understanding, matching personal characteristics with

employment, and facilitating accommodations in the workplace.

Legal Interventions

As discussed earlier, ADHD alone does not necessarily predispose an individual to legal involvement. However, the presence of hyperactivity and/or certain co-morbid disorders does increase the risk. The best interventions are in the area of prevention, through early identification and effective treatment. Peter Latham, author of Attention Deficit and the Law, states "I think the most important thing we can do with our young people who have ADD is to obviously attempt to meet their needs in the school situation. If we do that and they can experience some successes, they are going to be far less likely to feel alienated; to feel they have no real options. And, often, it's that feeling of alienation that leads to the acting out, antisocial kinds of conduct we can see in teenagers" (Kay, 1999). It is important that the assessment be thorough to include relationships within the family and behaviors outside of the school system in order to correctly target all areas needing intervention, including preventing exposure to legal problems. If assessment results indicate intense parent-teen conflict, family therapy and conflict resolution may be a focus of treatment, whereas indications of high risk-taking behavior or deviant peers suggests the need for individual and/or group therapy to increase impulse control and prosocial behaviors (Teeter, 1998).

Experts agree that effective parenting and structure of the environment are key in preventing juvenile offenses. Parents are powerful forces in their children's lives and need to create a positive environment with clear expectations, consistency, and open communication. This sets the stage for discussion of issues such as impulse control and responsibility in the areas of sexuality, alcohol and drug use, and violence. In families where hunting or collecting guns is an interest, safety and prevention needs to take top priority. Precautions may include removing the guns from the home, locking them up, providing gun safety training, letting clear limits about gun ownership, and removing guns and hunting privileges for any mishandling (Dendy, 1995; Parker, 1999). Parents are advised to watch for warning signs such as problems at school, violating curfew, undesirable friends, secretive behavior, or a negative change in mood. If these are noticed, Parker (1999) recommends confronting the child and explaining the reasons for suspicion. He warns, "Don't get caught in denial by minimizing or ignoring these problems. They will only get worse unless you deal with them" (p. 166). Parents need to have support when confronting their children's dangerous behavior. This can be a very difficult time for parents as they are faced with their children's reactions, which may range from denial and accusations to threats of violence or running away. The importance of moral

support and assistance in planning appropriate actions to provide for the safety and accountability of their child cannot be overestimated.

When an adolescent does get involved in brushes with the law, parents are advised to evaluate the situation and behavior, and impose consequences without overreacting. Avoid court involvement if at all possible. Effective intervention at the level of the home is preferable, and for many teenagers with ADHD consequences of grounding, losing privileges, and making restitution makes enough of an impact to avoid a chronic pattern of delinquent behavior. This avoids a juvenile court record that could come back and haunt the teenager in adulthood (Dendy, 1995). The family therapist can provide support and coaching for the family through this process of contracting for change.

If a court appearance is required, parents can help prepare the teenager by advising on appropriate grooming and court behavior, and to take medication so s/he can listen and pay attention to the proceedings. It is important to present important information relating to the case. This includes the teenager expressing remorse and taking responsibility (as appropriate), lack of prior record (if this is true), and consequences already imposed by parents. If the symptoms of ADHD contributed to the offense, the teen may also mention having the disorder and how it influenced the situation, clarifying that it is not an excuse, . The parents are encouraged to describe the bigger picture of the teenager's behavior, if this includes positive performance in school, sports, or community. They also can reiterate the consequences, structure, and supervision already provided (Parker, 1999). If the family is already in counseling, or is pursuing counseling, this should also be clarified. Court injunctions themselves do not create change. Again, the parents are in the best position to assist the teenager in making the needed changes. By follow-through with planned interventions, increasing supervision and positive family interactions, as well as encouraging more positive peers and activities, parents send a strong message of caring and belief in their child.

If the situation reaches the point where the teenager's behavior is out-of-control, the court may be involved to stop the downward spiral. In these cases, parents are advised to seek the advise of experts on ADHD and the counsel of the local juvenile authorities. Caution is the rule, as sometimes the court becomes frustrated with the juvenile, and the child sinks deeper into the legal system with any non-compliance, no matter how minor, with court orders (Dendy, 1995). Parents are well advised to remain an active and informed participant in the planning and implementation of case management for their ADHD child. Most social workers welcome the positive involvement

of parents; especially since the goal of any treatment is to either keep the child in the home, or return the child to the home after any necessary treatment stay. In the court orders treatment, parents are advised to be as involved as possible and be vocal in desire for family therapy sessions as part of the treatment. Surprisingly, family therapy is not an assumed part of child or adolescent treatment.

There are judges, such as Gerald Rouse and Virgil Costly, who are educated on the effects on ADHD on behavior and take that into account when dealing with juvenile offenders. Both ask parents about their involvement with the teen, the structure in the home, and what is being done to correct the behaviors. Judges such as these tailor court-imposed consequences to the child and family's needs and may include family treatment, community service, and skills training. Parker (1999) reports Judge Rouse as a strong advocate for more training of juvenile justice professionals about the impact of ADHD. "Without proper education and understanding about ADHD, juvenile justice system professionals (social workers, probation officers, guardians ad Litem, judges, and juvenile court services) will not be aware of the steps that can be taken to assist ADHD youth who come before them" (p. 167). The Pacer Center, a parent advocacy group, published a pamphlet, Unique Challenges, Hopeful Responses, to educate professionals working with youths with disabilities in the juvenile justice system. It emphasizes the need to recognize and consider the needs of the juvenile offender with disabilities. Pacer Center contends that the juvenile system must identify and accommodate the needs of it's disabled juveniles in order to accomplish the system's goal of rehabilitation of the youthful offender (Garfinkel et al.1997). While there is little written to address the needs of the offender with ADHD, the structure provided by incarceration provides predictable routine, which is a positive. Many institutions have programs to address issues such as alcohol and drug abuse, educational needs, and errors in thinking. These programs typically use a cognitive-behavioral approach, which is effective with this population, and the problem areas addressed are those common to children with ADHD and co-morbid disorders; those most likely to be in such facilities.

More recent interest in identifying more effective treatment strategies for young offenders has resulted in formal programs being developed, that while perhaps not directly targeting ADHD symptoms, are using approach known to be most effective with this population. One such program developed at the Glen Parva correctional facility in England, named "The Young Offender Treatment Program," recognized the need to address impulsivity, low levels of social-moral reasoning (i.e. empathy and sensitivity of non-verbal stimuli), substance use, and poor

problem solving skills (core issues with ADHD). It also recognized that to engage and retain the youth, the program needed to interesting and flexible. It's style of delivery is explained as follows:

> In order for the course to use a style responsive to its client group, it needs to be interesting and entertaining; be challenging; be fast-paced with frequent breaks; incorporate skills practice; and reiterate important information to maximize learning. All of this, however, needs to be done in different ways so that boredom is minimal. Therefore, it is a multi-model program, which includes methods such as competitions, games, interactive exercises and amusing tutor role plays (Dalkin, p. 64).

This would be an ideal description of teaching style accommodation in the public school setting for children with ADHD. Professionals educated in the systemic perspective of ADHD could well transplant the approach being developed for youthful offenders into their repertoire and prevent the school failure which propels some of these youngsters into antisocial behaviors.

However, ADHD is typically not identified and medically managed as standard practice in correctional facilities. T. Dwaine McCallon, M.D., speaks of this population in his article If He Outgrew It, What Is He Doing in My Prison? (1998). McCallon believes upwards of 40% of the inmates in medium security prisons have the findings along the Tourette/ADD spectrum. He, along with a clinical social worker and a clinical Ph.D. psychologist, started a study/treatment project for a group of these men at Buena Vista Correctional Facility in 1989. This project included the use of medications for ADHD and rehabilitation. The program lasted between six months to over two years, with each patient given a 30 day supply of medication and placed in contact with local support groups, counselors, and doctors comfortable with treating their condition. Dr. McCallon reports a two year recidivism rate of under 10% for those who completed the program; compared to a national recidivism rate of 53-58%! He is disturbed in speaking with these patients, having learned that most where diagnosed at an early age, but treatment had been discontinued 1-2 years after starting school. Many had been told they would outgrow the disorder, and many were mislabeled as having a character problem which only needed more severe discipline. He estimates that there are perhaps 600,000 inmates who could have hope for a better life by being treated for ADHD. He urges parents, "Never stop advocating for your child with ADHD. Dealing with the scorn of others who do not understand is a pittance compared to the experience of visiting him or her in prison" (p.3).

Controversial Treatment Options

Since the early 1980's there has been an information explosion about the treatment for ADHD. Along with the

mainstream, thoroughly researched treatments there have been several alternative treatments that have gained publicity over the years. In spite of enthusiasm, most of these alternatives have not held up to the scrutiny of scientific research.

In the 1970's an additive-free diet, called the Feingold diet, was claimed to improve most (if not all) children's learning and attention problems. Advocates described case studies where children on this diet were able to be taken off their medication, then subsequently showed deterioration in behavior when not following the additive-free diet. However, dozens of well controlled studies over the years have consistently failed to find support for the approach. The use of very high doses of vitamins and minerals was an attractive approach, as vitamin deficiencies are known to cause a variety of serious illnesses. The theory was that individuals with ADHD have a genetic abnormality which results in increased requirements for vitamins and minerals. Giving these higher doses was claimed to decrease hyperactivity and improve attention and concentration. However, there are no controlled studies which support these claims; and in fact, three studies in which proper controls were employed, not showed positive results. Not only that, but excessive doses of some vitamins can be harmful. In the mid-70's, both the American Psychiatric Association and the American Academy of Pediatrics concluded that the use of megavitamins to treat behavioral and learning disorders was not justified (Goldstein, 1992).

Another theory is that ADHD is caused by problems in the inner-ear system Proponents of this theory use an array of medications, including anti-motion sickness medications and several vitamin-like substances, and claimed a success rate of over 90% in a group of 100 ADHD children. Unfortunately these results are not published and cannot be verified. Additionally, there is no research that supports a link between ADHD and the inner-ear system, leading to the conclusion that this treatment should not be used for ADHD (Goldstein, 1998).

Some believe that toxins produced by overgrowth of candida yeast weakens the immune system, making the body susceptible to many illnesses, including ADHD. The treatment approach called for includes antifungal medication, and a low-sugar diet. This approach also uses elimination diet to rule out allergies, and taking vitamin and mineral supplements. There is little evidence to support this theory. In fact, with such a multifaceted treatment approach no investigator would control so many factors to establish meaningful results. Again, this approach is not recommended.

EEG biofeedback, in which the child with ADHD is taught to increase the type of brain-wave activity

associated with sustained attention and decrease the brain activity associated with daydreaming and distraction, has also been suggested as effective in reducing symptoms. This treatment consists of 40-80 sessions, held two to three times a week. While the children studied quickly learned to increase the desired brain-wave activity, parent and teacher rating improved considerably, and IQ and achievement test scores dramatically improved, these results are inconclusive. The study was flawed by the small number of subjects, the ambiguous diagnoses, and no control group to rule out the significant possibility of placebo effect. This program of treatment usually also includes a reward system for increasing brain-wave activity and a program of academic tutoring. Studies have shown biofeedback to be no more effective that simple relaxation or hypnotherapy methods. It is an expensive approach which is still unproven, so patients are advised to proceed with caution (Fowler, 1992; Goldstein, 1998; Parker, 1999).

Applied kinesiology is a chiropractic method, also known as the Neural Organization Technique. It is based on the theory that learning disabilities are caused by a misalignment of the sphedoid and the temporal bones in the skull, creating unequal pressure on the brain, leading to brain malfunction. This misalignment supposedly also caused an eye-movement malfunction which contributes to reading difficulties. This theory also is inconsistent with scientific knowledge about the causes of learning disabilities, as well as human anatomy (it is medically accepted knowledge that cranial bones do not move), and "has no place in the treatment of learning-disabled children (Fowler, p. 81).

Two other approaches use training, one optometric and the other auditory. A group of behavioral optometrists proposed that reading disorders are caused by visual problems, such as faulty eye movement, focusing problems, and sensitivity to certain light frequencies. There are several variances in the components of the vision treatments, as well as some adding biofeedback, nutritional counseling and family therapy. While this may initially seem reasonable, investigations have concluded that most reading disorders are due to deficiencies in the storage and retrieval of linguistic information, not from visual processing disorders. The American Academy of Pediatrics and the American Academy of Ophthalmology and Otolaryngology issued a joint statement highly critical of this approach; it should not be used to treat learning disabilities Likewise, the theory of auditory training is based on treatment for autism and lacks support for use in treating ADHD (Fowler, 1992; Goldstein, 1998). Other claims of effective treatment include antioxidants, acupuncture, and homeopathic remedies, to name a few. Parents are

advised, again, to be cautious before investing their time, money, and hopes in treatments that have no proof that they decrease the symptoms of ADHD (Parker, 1999).

All in all, in spite of attempts to find alternatives which may offer an easier remedy for ADHD, all thus far lack scientific evidence supporting their use. As these and other alternative approaches come the attention of the families of individuals with ADHD, the experts offer the following advise: be suspicious of exaggerated, or overstated claims, these are "red flags;" the old saying still holds true that if it sounds too good to be true, it probably is; be suspicious of a treatment that claims to be effective with a wide variety of ailments; do not rely on testimonials, legitimate health professionals do not solicit these from their patients; and be skeptical if a treatment advocate claims the medical community is unfairly attacking them, as the medical community welcomes any improved methods of treating patients. Use common sense, take the time to investigate any new alternative treatments, and ask health professionals that are well versed in the treatment of ADHD (Fowler, 1992; Goldstein, 1998).

Reciprocal Effects of Treatment across the Systems

Reviewing the presentation of symptoms, the effect on the system, and the interventions most commonly recommended in the various systems, it becomes obvious that the overlap is extensive. The symptoms that challenge relationships with family members also challenge relationships with peers, teachers, co-workers, and employers. The effects on self-esteem and emotional states also plays out in multiple systems. Just as the pebble dropped in the pond sends a ripple across the entire surface, hit the shore and return, effective intervention spreads positive changes through the various systems, affecting each other in a reciprocal fashion.

If effective intervention takes place early in the family system, the improved functioning positively effects all family members, thus all the systems in which each family member interacts. Suppose a child with ADHD is identified by a savvy professional and treatment is initiated for the entire family. As each family member gains understanding and skills, family relationships improve and home life is stable and loving. Parents tie into outside supports and reach out with information and helpful interventions to extended family, close friends, and school staff. The family is able to socialize with less fear of being judged and wisely choose activities and environments that match the family's needs and lessen the chance of problems. Less isolation reduces the risk of family breakdown or violence. Parents who feel successful are less apt to experience depression, alcohol or drug abuse, and work related

problems.

Children who live in a safe and caring home are free to be at their best in school and with peers. The child with ADHD benefits from effective parenting, lessening the risk of developing co-morbid disorders and is more likely to be successful and invested in school. This reduces the risk of juvenile delinquency and struggles over school issues at home. Parent's work performance does not suffer, nor are they being pulled away from their jobs by calls from the authorities. This in turn protects the family's financial security. The self-esteem of each family member is improved with every positive interaction and success, building a solid foundation and resilience to face future challenges. Each of these factors reduce the need for involvement of social services and the legal system, which in turn reduces cost to the taxpaying community.

An alert teacher may spot the symptoms of ADHD in a student and respond with accommodations, notifying parents, and making a referral. A school counselor familiar with the symptoms of ADHD recognizes them in a student seen repeatedly due to behavioral problems or truancy. Or the mental health therapist recognizes the complaints of frustrated parents and a disgruntled teen as similar to the dynamics of a family experiencing the affects of ADHD and begins asking the right questions and recommends an assessment. The points of intervention are different, but the positive changes spread just as thoroughly through all the systems.

In the same manner, an adult with ADHD who receives successful treatment operates more successfully in the workplace, experiencing less job stress and improved self-esteem. This worker returns home feeling good, has more patience and enjoyment with children, and is more loving toward his/her spouse. The marital relationship remains healthy, parenting and running the home is a cooperative effort, and the home atmosphere is stable. This enables other family members to focus on their developmental tasks and move in and out of other systems unencumbered by the negative effects of untreated ADHD in the home.

Chapter 3

Conclusions

While ADHD is recognized among health care professionals as a neurological disorder, there are those who disagree with it's origins, as well as treatment approaches. The widely accepted definition, as described in the DSM-IV, encompasses the main characteristics of inattention, and/or hyperactivity/impulsivity in the degrees which cause impairment in functioning.

Other theories of causes and alternative treatment approaches have been largely unsubstantiated, thus rise and fall in popularity.

Historically, treatment has consisted of interventions focusing on the child. These have consisted mainly of medication and educational interventions. Medication, while it has experienced controversy, has been the most popular treatment. However, it unfortunately has been misconceived by many as the cure-all. Although other interventions, such as skills training, are widely known in the medical community, they are given only cursory mention when discussing treatment with the individual with ADHD. Educational interventions and accommodations, while legally mandated, are lacking. Due to issues of financial budgets and investment of man-hours, school districts are faced with the dilemma of staying within the reduced budget and meeting the needs of all students. Typically, the bottom line rules unless legal pressures are applied by informed education consumers.

More recently, further information has broadened the perspective on ADHD. This broadening is in the range of symptomology, age of individuals who may have the disorder, and treatment targets. It is now understood that there are variances in the presentation of ADHD symptomology. These variances are not only between individuals, but also determined by the context. Studies and scientific research have proven that children do not

necessarily outgrow ADHD; that while symptoms may lessen with age, many continue to have ADHD into adulthood. Targets for intervention have also expanded to include the entire family, the social milieus of recreation, friendships, the workplace, and the legal arena. Even the educational environment has grown to include post-high school educational settings. Types of interventions newly recognized are in the area of advocacy, coaching, and addressing the emotional repercussions of living with ADHD.

As ADHD is further understood and integrated into the functioning of the different systems of society, society as a whole benefits from the increased awareness of the different attributes of people and how these differences can add to the richness of life.

Chapter 4

Implications for Educators and Health Care Professionals

As more is known about the widespread effects of ADHD, it becomes even more evident that, as health care providers, we are responsible to be informed about ADHD. As individuals and/or families come to us with various concerns, we are in a position to recognize and provide assistance with this disorder.

Educators are expected to have the skill to recognize symptoms that may indicate ADHD and take action. This means discussing concerns with parents and recommending assessment. It also means being informed on effective interventions and accommodations in the classroom, making the time to work cooperatively with parents, and maintaining a positive and supportive attitude. The energetic and caring teacher may even provide helpful tips for homework management to parents, being sensitive to parental resources already being strained by the additional challenges of parenting a child with ADHD. This may seem like quite a daunting challenge, but armed with an understanding of the far-reaching impact of the educational experience on the student and his/her family, the educational professional must see that the reward far outweighs any inconvenience or expense. In addition, the teaching professional will likely be hailed as a life-saver by the parents. Not to mention the knowledge of making a big difference in the life of a special child.

Medical professionals are also seen by individuals with undiagnosed ADHD. Recognition of the physical and emotional symptoms, such as depression/anxiety and stress related illness, that may indicate ADHD, is important to rule out or to indicate the need for further assessment. Treating the symptom is not effective health care and will not provide lasting results. With recognition and effective treatment of ADHD, other symptoms may spontaneously be reduced or disappear.

When a child is referred for assessment, the medical provider also needs to be alert to the possibility of a parent or other family member also having ADHD. And when discussing treatment, the importance of taking a proactive stance must be stressed. This includes discussing the importance of family therapy to not only improve current functioning, but also for prevention of co-morbid disorders and related problems for other family members.

Medical facilities should provide patients with a short and informative brochure on the treatment of ADHD from a systemic perspective. Follow-up visits for medication checks also need to include a reminder or progress check on the use of the non-medical interventions, and the functioning of the family unit.

All mental health professionals are also obligated to be informed about ADHD and how it may be exhibited in the client seeking therapy. If ADHD is suspected and the therapist is not trained to assess and/or treat ADHD, it is the therapist's ethical responsibility to refer the client to an appropriate resource. The client should never be left to find these resources without help. The appointment is best made while the client is in the room, as person's with ADHD frequently struggle with organization and follow-through. If the client is hesitant and wants to think over options, a follow-up appointment and information including a resource list should be provided.

As a qualified service provider to individuals with ADHD and their families, the mental health therapist understands the need to be especially sensitive to the need to be strength-based and confident in his/her approach. The assessment and treatment planning includes all life areas, other family members, and encourages the involvement of other close associates. The mental health therapist needs to be cognizant that the challenges that ADHD places on interactions in other systems will also exist in the therapeutic relationship. Using effective accommodations and interventions within this milieu is to be expected, and models acceptance and understanding to the client that may be sorely needed. This is a powerful intervention and may make the difference in retaining a client with a propensity for premature disengagement.

These include maintaining a positive attitude and perseverance, providing frequent feedback, and encouraging self-evaluation throughout the process of evaluation and treatment. Together, the therapist and client identify the preferred learning style and make it the primary mode in the multimodel delivery. Tools such as calendars, charts, and skills practice are used during sessions and generalized into other life areas. Advocacy and coaching are important treatment issues and need to be directly addressed. The therapist may model these to the client and support people, then encourage the client take over and put into place. Or the therapist may take a directive approach and, without modeling, provide resources and schedule follow-up on progress.

The therapist working with clients with ADHD must also be mindful of the relationship dynamics that may illicit personal responses similar to those experienced by others involved with a person with ADHD and his/her family. Continual self-monitoring is required to head off caretaking behaviors, over-responsibility, or personal

family issues, which these people often trigger (Price,1996). Triangulation with family members, school officials or employers must be avoided. Feelings of frustration and helplessness or other emotional reactions are likely to surface, due to the nature of this disorder, and provides the therapist the opportunity to model discussing and handling commonly felt emotions, and use of support systems. Therapists are well advised to have their own support network in place if working with ADHD is a fair percentage of their practice.

Professionals working with individuals with ADHD, whether in education or health care, have the opportunity to impact the lives of these people in a very important way. In order to do that, the opportunity needs to be recognized by obtaining education about this hidden disability. When symptoms are presented which raise suspicions, professionals must know how to approach the situation in a positive and sensitive manner, as well as facilitate referral and provision of needed services. Without a new understanding and compassion, education and health care professionals take an active part, by their uninformed positions, in continuing the misunderstanding and needless suffering of these individuals. There are an estimated two million people with ADHD in this country who need professionals to take a proactive stance and help them break the destructive cycle of misunderstanding and mistreatment of individuals with ADHD.

Society as a whole benefits through decreased costs in taxes which support social, legal, and correctional services, as well as in the cost of material goods. Most importantly, the quality of life for the individual and the family is greatly improved.

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